AMERICAN BEE JOURNAL

The Oldest Bee Journal in the English Language

ESTABLISHED BY SAMUEL WAGNER IN 1861

Copyright 1937 by C. P. Dadant. Published monthly at Hamilton, Illinois. Entered as Second-Class Matter at the Postoffice at Hamilton, Illinois. C. P. Dadant, F. C. Pellett and G. H. Cale, editors; Maurice Dadant, business manager. In United States, Canada and Mexico, $1.00 a year; 2 years $1.50; 3 years $2.00. Foreign, $1.25 a year; 2 years $2.00; 3 years $2.75. Subscription stopped at expiration date printed on wrapper.

CONTENTS

MONTH OF APRIL, 1937

Package Handling and Queen Supersedure —*L. L. Ferebee* ... 167

Garden Spray for Feeding Package Bees —*John Regan* ... 169

Our Cover Pictures—A Contest for Everybody ... 170

Spring Honey Week ... 171

How to Combat the Menace of Airplane Dusting—*Dr. J. E. Eckert* ... 172

Bee Inspection in Michigan—*Elmer Carroll* 173

Here and There ... 174

Bee Poisoning Through Arsenical Orchard Spray—*Erdman Braun* ... 175

Every Hive a Scale Hive—*Walter Joslin* ... 177

Editorial ... 178

A New Frame Device—*Calvin D. Crary* ... 180

New Bee Pastures—*Frank C. Pellett* ... 181

Pollen Substitutes—*Elmer G. Carr* ... 181

Smoking and Smoker Fuels —*H. A. Seabright* ... 182

Colusa County Leads the Way —*Thos. C. Burleson* ... 183

Observations of a Beginner —*Grant D. Morse* ... 184

The Editor's Answers ... 185

All Around the Bee Yard—*G. H. Cale* ... 186

Meetings and Events ... 188

Crop and Market Report—*M. G. Dadant* ... 195

Postscript—*Frank C. Pellett* ... 206

INDEX TO DISPLAY ADVERTISERS

Alabama Apiaries ... 200
American Honey Institute 197
American Pigeon Journal 198
American Rabbit Journal ... 188
Australasian Bee Journal 201
Banta & Wire ... 204
Beekeepers Item ... 200
Blue Bonnet Apiaries ... 201
Brand, W. T. ... 160
Brunson, J. G. ... 203
Burleson, Thos. C. ... 194
Burleson & Son, T. W. ... 190
California Bee & Tool Co. 199
Calvert Apiaries ... 164
Caney Valley Apiaries ... 198
Citronelle Bee Co., Inside back cover.
Coffey Apiaries ... 201
Crowville Apiaries ... 200
Crummey, John A. ... 201
Cutts & Sons, J. M. ... 198
Dadant & Sons ... 162
Davis Bros. ... 198
Di Lullo, J. W. ... 200
Dittmer Co., Gus ... 199
Dusek Co., Joseph ... 186
Eells Honey & Bee Co. ... 204
Fahlbeck, Ernest ... 204
Forehand Apiaries, Inside back cover.
Forehand, N. ... 188
Forehand & Sons, W. J. ... 199
Garon Bee Co. ... 205
Gilson-Bolens Mfg. Co. ... 190
Goat World ... 199
Gooch Apiaries ... 200
Graham, H. E. ... 205
Graydon Bros. ... 188
Great Northern R. R. Co. 189
Guilford Apiaries ... 202
Hazel-Atlas Glass Co. ... 187
Hann, Albert G. ... 187
Hendrix, O. P. ... 203
Highland Apiaries ... 193
Hilbert, James E. ... 188
Hillock, Charles ... 198
Hodgson & Sons, S. P. ... 188
Holder Apiaries, 161, 193, 198
Honey Bowl Apiaries ... 201
Hook, A. J. ... 198
Hummer & Son, Geo. A. ... 203
Iverson Honey Co. ... 195
Jackson, D. C., Inside front cover.
Jane Marie Apiaries ... 202
Jensen's Apiaries ... 199
Kelley Co., Walter T. ... 204
LaBarre, R. E. ... 204
Lewis Co., G. B. ... 166
Louisiana Comb Shippers 205
Lotz Co., August, Inside back cover.
Lucedale Apiaries ... 160
McConnell, Herman ... 199
McDonald, L. H. ... 199
McVay, J. F. ... 202
Marshfield Mfg. Co. ... 202
Mayeux, Alex L. ... 200
Merrill Bee Co. ... 194
Middle Tennessee Apiaries 202
Miller's Caucasian ... 201
Mott, E. E. ... 199
Muth Co., F. W. ... 192, 194
Nations, A. W. ... 187
Overbey Apiaries ... 165
Person & Son, W. ... 203
Peterman, H. ... 190
Peterson, E. W. ... 186
Pinard, A. B. ... 190
Plant, W. E. ... 203
Progressive Apiaries ... 201
Puett Co. ... 200
Red Stick Apiaries ... 160
Richard, Homer W. ... 193
Root Co., of Chicago, A. I. 203
Root Co., of Iowa, A. I., Inside front cover.
Root Co., of Ohio, A. I., 189, Back cover.
Rosedale-Hutterian Mutual Corp. ... 201
Rossman & Long, Inside front cover.
Running, David ... 186
Rusch & Son Co., A. H. ... 193
Schmidt, Oscar H. ... 200
Shaw & Homan ... 190
Silver Run Apiaries ... 193
Simmons Apiaries, E. A., 203
Spoerri Apiaries ... 198
St. Romain's "Honey Girl Apiaries" ... 199
Standard Churn Co., Inside front cover.
Standard Lumber Co., Inside back cover.
Stearns, R. V. ... 199, 201
Stevenson's Apiaries ... 201
Stoller Apiaries ... 198
Stover Apiaries ... 159
Sunny South Apiaries ... 189
Superior Honey Co. ... 161
Taylor Apiaries ... 197
Valley Bee & Honey Co. 192
Victor Apiaries ... 199
Weaver Apiaries ... 202
Winn, Al ... 198
Woodman Co., A. G., 164, 186
York Bee Co. ... 164

30 and 50 FRAME RADIAL HONEY EXTRACTORS

With Three Definite Speeds, to get the bulk of the honey out in Low and to finish combs dry in High. The extra honey secured in extensive operations is considerable. Load 30 or 50 Frames and save time and lost motion in each stopping, unloading, reloading and starting again, four to six times for the same amount of honey. Spend this time uncapping the next load of combs.

Send for booklet showing 10 different styles and sizes of extractors and extracting equipment.

A. G. WOODMAN CO., Grand Rapids, Mich., U.S.A.

Package Bees and Queens
Quality Bred Italians

Larger Supply—Bred for Business
None Better—Same Price

PRICES, ANY QUANTITY:	
Untested Queens	75c each, any number.
Tested Queens	$1.50 each, any number.
2-lb. Package Bees with Queen	$2.45 each, any number.
3-lb. Package Bees with Queen	$3.15 each, any number.
2-lb. Package Bees without Queen	$1.70 each, any number.
3-lb. Package Bees without Queen	$2.40 each, any number.
For additional pounds of bees add	70c each, any number.

We are prepared to handle your orders for any quantity satisfactory. Special care is given to the selection of breeding stock for improved quality. If honey is your object, give our bees a trial. Have no desire to sell close and will not book more than can do. Full weights, freedom from disease, safe arrival and satisfaction guaranteed. Prospects indicate a heavy demand and orders should be booked now. Do not get left, order from this advertisement now and save time.

We are also dealers for Lewis Beeware and Dadant's Foundation at Catalog Prices.

York Bee Company, Jesup, Georgia
(The Home of Quality Products)

Better Bred Queens — Three-Banded ITALIANS

We are prepared to handle your rush orders. Don't hesitate to send them to us. Raising queens and shipping packages is our only business. Not a side-line. We have left no stone unturned to give you the best queens obtainable and good honest, well prepared packages. Give us a trial and be among our many satisfied customers.

PRICE FOR UNTESTED, SELECT QUEENS	$ .75
TWO-POUND PACKAGES WITH QUEENS	2.45
THREE-POUND PACKAGES WITH QUEENS	3.15
FOUR-POUND PACKAGES WITH QUEENS	3.85

Dealers wanted in all localities.
Dealer's discount, 15%.

CALVERT APIARIES, ❖ CALVERT, ALABAMA

ADVERTISING PAGES REMOVED

AMERICAN BEE JOURNAL

Vol. LXXVII—No. 4 Hamilton, Illinois, April, 1937 Monthly, $1.00 a Year

Package Handling and Queen Supersedure

By L. L. Ferebee,

South Carolina.

SUPERSEDURE of package queens is one of the knottiest problems confronting the package business at the present time. In conversation with the writer and some others, W. J. Synott, manager of the Tanquary Honey Farms, Inc., said that, in so far as he is concerned, supersedure has ceased to be a problem. He thinks that a very large per cent of the trouble is due entirely to the instructions given the average purchaser of package bees, and that the causes are not far to seek, chilled queens being the prime reason. Chilling comes about by the practice of setting the bees out just before night in order to prevent drifting so the bees fail to cluster on the queen when northern nights are quite cold.

He says the bees become so demoralized from the first night's chilling that they often fail to become properly established, even during the following days. Should that day be cloudy, windy, or cold many bees will remain upon the bottom board of the hive; others will cling to bottoms of frames, the sides of the hive, and in little knots all over the combs, in almost any place they happen to strike, leaving the queen without the benefit of the warmth of the cluster's center.

Synott was for twelve years foreman of the Stover Apiaries, in Mississippi, where queens and package bees are produced. He went then to Michigan where he was in charge of the northern honey producing yards of the Stover Apiaries for four years. There the practice was to kill the bees in the fall, and to restock the hives with packages each spring. Following that he became manager of the Tanquary Honey Farms, Inc., in northern Minnesota. Each year he supervises the installation of about one thousand packages shipped to the Farms from its own yards in South Carolina where he spends a part of his time rearing package bees and queens.

In the North his practice is to feed the packages very heavily as soon as they are received, and to continue feeding as often as the bees will take syrup, and until such time as the packages may be installed. Hives are waiting, having been set out several days in advance and equipped with Brother Adam feeders—a type of feeder which may be filled and refilled without disturbing the bees in the least. Hives are not opened for ten days, but outward appearances are very carefully watched and feeders kept well filled with feed.

If the weather is unfavorable Synott makes no haste to put the bees out immediately upon their arrival, but calmly awaits a suitable day, keeping the bees so gorged with feed in the meantime that they have no inclination to worry or exert themselves while stored in a dark cellar. He thinks the imperative thing is to put them out so that during the warmest, and most favorable part of the day, they have a chance to establish themselves before the cool of evening. Thus he finds that the bees have opportunity to crawl about the hive, learning where the feeder is, where the brood nest should eventually be, and, most important of all, where the queen in her cage has been placed. They will soon be trying to release her, which Synott makes easy for them by removing the paper, and punching the candy with a match stem, if there is any candy. If not, he simply releases the queen by removing the paper and inserts the cage, leaving her to crawl out at once among the bees, where she is sure to have all the warmth that the cluster can produce.

Synott says that when the bees arrive at their destination their natural instincts of preservation and habits of taking care of themselves have been greatly lowered and lessened. It is therefore necessary to shut them in with grass or green leaves stuffed lightly but very carefully into the entrances so that they may return to normal before they take any flights. When they come to fly they will have stored their surplus feed in the proper place in the combs, crawled about all over their hive, and discovered for themselves that they are now in a proper place to set up housekeeping.

When the bees fly out after pushing aside or gnawing the green leaves or grass, the entrance will at first be very small. They will find themselves on the outside, after some deliberation, with the result that there is no sudden general flight but a few bees slowly making their way out and in. There is no drifting worth worrying about, as there would be if they were all released suddenly after having been caged. If any colony should fail to gain its release by working through the grass or leaves, the apiarist when he comes around to replenish the feeders a day or two later sees to its release himself.

Synott shakes the bees from the cages as gently as possible, after having removed five or six combs to make way for them, and then very carefully works the combs down among the pile of bees that have fallen to the bottom, so that no bees are mashed under the frames. After the heavy feeding there is very little flying, and practically all the bees are enclosed in the hive for the time being.

Synott does not ship bees in cages

Synott displaying a colony from an early package.

too large for them, and I have noticed that he builds a cage to suit any size of package that he ships. Several seasons back, when the bee journals were endeavoring to get a standardization of packages, I wrote to the Louisiana Experiment Station for instructions, which advised all cages to be made the same size to carry four to five pounds of bees. This was thought to effect a saving over making and having several sizes of cages. We accordingly made up quite a lot of cages all alike. Presently we got a very large order to be shipped to Manitoba, in two-pound size.

About the time we got three heavy shipments into transit at one time, there came the coldest spell that has ever occurred that late in recent years, with the result that due to the draft coming in at the doors of the express cars, the bees clustered all into one end of the cages, probably away from the door of the car. A very large amount of the queens arrived in Canada actually dead and many others were superseded very shortly after arrival and installation.

After this we returned to our old method of making cages thick and thin, for varying sizes of packages, and have shipped thus many times in very early spring without any disastrous results.

Some writers in the North and a few northern buyers of queens place the blame for supersedure on the breeders of queens. We have seen a particular batch of queens reared by a good queen breeder in our employ that had scarcely begun to lay before they were superseded in the nuclei in which they were mated. This batch of queens took so long to emerge and to mate that the section of the nuclei yard they were in failed to give anything like the output of queens it should have. It was never possible to fasten the blame exactly. The colonies which drew the cells must have been allowed to swarm when these cells were being drawn.

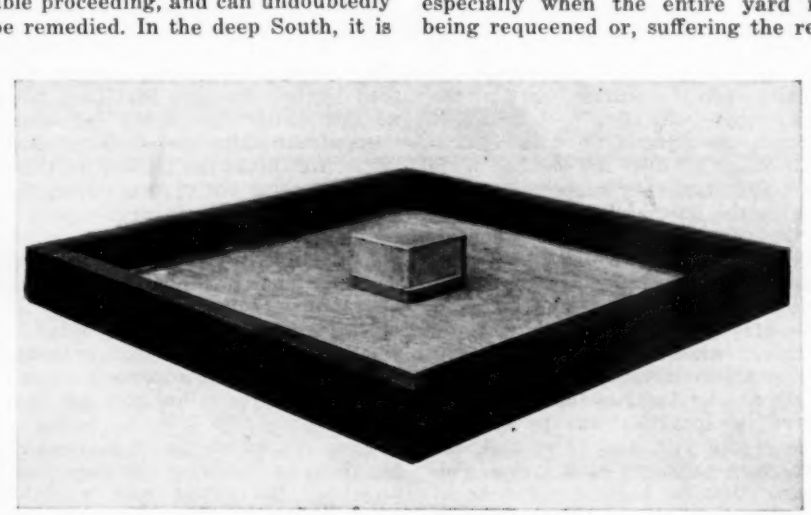
No shipper is going to allow this repeatedly, because it is an unprofitable proceeding, and can undoubtedly be remedied. In the deep South, it is always possible to rear good cells by building up the cell-building colonies at the expense of colonies in the package-producing yards. It is a fact that the more cheaply cells are reared, the more necessary it is to crowd the bees and to get a large batch of fine cells which are sure to be top-notch queens. Sometimes unfavorable weather delays mating and therefore lessens greatly the number of queens possible from a given nuclei yard in a specified time. But this does not seem to be at all detrimental to the quality of the queens produced. We have many times produced queens of high quality during such seasons, although shipping was delayed and curtailed. At the time of putting out cells the average queen yard attendant culls out any that may not appear to be up to standard, because it is always necessary to have many more cells than are usually used, with more coming ready each day.

It is a lot of trouble to count the number of nuclei ready for cells, and it is better to throw away one hundred drawn cells than to have a dozen mating nuclei without cells when they need them. Right here is the one place an unscrupulous man may run in a few queens that are decidedly inferior by letting nuclei rear cells that are not grafted but of their own rearing entirely. However this always again delays the number that a given yard can turn out in a season, and it is not going to be tolerated by any man who is capable of making a livelihood by shipping bees and queens.

There is surely not any shipper of queens and bees who has not tested out several strains of bees, and so you will find that each shipper has really good bees for his locality, and the best that he can get for the locality where he sells most of his packages.

Any queen in this locality is found to be injured when caged in a colony of bees during a dearth of honey, especially when the entire yard is being requeened or, suffering the re-

Minnesota apiary in a honeyflow, each colony from package hived in May.



Brother Adam feeder, which Synott uses to feed packages without disturbance.

moval of their old queens, so that a ball of angry bees surrounds the new cages for several hours, or several days. She will undoubtedly be superseded within a very few weeks, even when safely introduced.

The daughters of one mother will be smaller than those of another, but this does not seem to prove anything, although as an average, queens of normal size seem to be best. Perhaps we may usually find a very inferior queen to be smaller than average, but on the contrary we have seen very large queens superseded within a few weeks after having headed a colony.

Recently most breeders have become convinced that the daughters of a mother which has not headed a colony through a honey gathering season are far more vigorous than and superior to a mother who has been tested over a season or two. Most breeders are selecting the strain of bees and judging their mother queen by the average of an entire yard, instead of an individual colony, and selection of the individual are made from general appearance and handling qualities, appearance of brood nest, and surplus arrangement.

—ABJ—

Garden Spray Successfully Used in Feeding Package Bees, By Prominent Colorado Beekeeper

By John Regan,
Colorado.

THE difficulties of efficiently feeding package bees while still in the package are overcome with high success by Alfred Danielsen, prominent Colorado beekeeper, through the use of an ordinary pressure garden spray. This method is neat and at the same time sends the sugar syrup clear through the usual double thicknesses of wire and into the clusters of bees.

"We had unusual success with our packages last year," says Mr. Danielsen. "In fact, we removed an average of twice as much surplus from our package bee colonies, in the fall, as we did from the other hives. Part of this, of course, was due to the superior location of the package bees, but we believe a good bit of it was also due to the methods we used in caring for the packages, including that of feeding them with a garden spray."

The garden spray holds about five gallons of sugar syrup. Its superiority over the ordinary instruments such as brushes, in regard to the feeding of packages, lies in the fact, largely, that it has enough pressure to send the syrup into the bees directly without making it necessary for the bees to suck the syrup from the wire. It is also much quicker. Nor has Mr. Danielsen found any difficulty with getting too much pressure on the machine. The machine costs around ten dollars.

"The syrup can only be used in the machine if the syrup is warm," Mr. Danielsen cautions, "for if it is cold the machine is likely to clog up. Also, to prevent clogging, the machine should be carefully washed out after each time it is used."

Upon arrival of the packages, Mr. Danielsen places them in a cool location and feeds them for three or four hours.

"We feed them just as long as it is possible to do so without their getting messy," he says. I judge that we give each package around a half a pound of syrup."

Then the packages are placed in the hive the last thing in the afternoon, in order to prevent robbing, as far as possible.

"We are inclined to believe that with this type of feeding of packages it will be possible to release the queen in the package immediately," states Mr. Danielsen. "When the workers are pretty well covered with syrup, and are therefore occupied in cleaning themselves off, there should be little danger of the queen being balled."

In conjunction with Mr. L. C. Farrar, of the Federal Bee Culture Laboratory, at Laramie, Wyoming, Mr. Danielsen intends to make a thorough trial next spring of this idea of immediate releasal of the queen.

Another possible application of the use of the garden spray with sugar syrup is that of shooting the syrup into empty combs.

"While no doubt it would not be practicable to do it on a large scale," points out Mr. Danielsen, "nevertheless I do think it is worthy of consideration that one can feed a colony by taking empty combs, filling them with sugar syrup through the use of the garden spray, and then placing the combs in the hive."

—ABJ—

Neglected Bees Often Poor Stock

It often happens that what a man learns in the course of a business deal is more important than the amount of money he may make—or lose—on the deal. Recently I learned that in buying bees about the country it is not safe to figure on them as being good bees. Having bought twenty hives from a farmer I put a full set of combs on each hive, expecting that it would hold most of them from swarming, until I could get time to go through the hives. Less than two weeks later I went back, and found that more than half of them had swarmed. Besides swarming on little provocation, they would sting on no provocation at all, being the worst bees in this respect that I have ever tried to handle. I wondered how such poor stock could survive. Later I learned that the farmer had been wondering the same thing and decided that it was time to sell.

Not all bees kept in box hives or on crooked combs and allowed to shift for themselves will be as bad as these, but the fact that they are likely to be is one of the reasons why the beekeeper can afford to offer only a small price for them.

W. H. Hull,
Virginia.

—ABJ—

While Danielson uses hand sprayer for feeding package just arrived, we have used it, as shown, for feeding the established colony.

Our Cover Pictures

—A Contest for Everybody

THIS interesting contest has assumed greater proportions than we anticipated and many worthwhile pictures are being received. Those not desirable because of the difficulty of making good engravings are being returned. Some are being enlarged from the original negatives in an attempt to select a portion of the picture which will suit the circle on the front cover better than the entire picture. This is difficult and only occasionally successful. Contestants, if possible, should send, not only their prints, but the negatives from which they were made.

Another development has occurred, unexpected at the beginning. Many pictures not suitable for the cover are desirable on inside pages. So we are writing those who submit pictures which can be used in this way, offering them too their choice of books and for some words about their region or their beekeeping to go with their pictures. So, if you do not succeed in submitting a picture which will be used on the cover, there is a good chance that it will be useful on inside reading pages. After all, only a few pictures can be selected for the cover circle since there are only twelve months in the year, and this arrangement makes the use of good pictures still profitable and does liven up the pages of the Journal.

April Cover.

The cover on this issue, April, is from our cover artist, Miss Louise Conradt. She submitted several drawings. We chose this one. It seemed to be the best subject for April. Although many pictures have been received, they were not quite right for April and Miss Conradt has served us so faithfully, we did not feel like turning her down when she expressed this interest.

May Cover.

The May cover was sent by a photographer at Petersburg, Indiana, William Boburg, and shows James Hardison, president of the Pike County Association, with a colony of wild bees he is hiving. Perhaps it is a little unfair to choose an expert's picture, but I think you will agree that it is an unusual subject and deserves a place. We have not excluded any group in this contest, although it is obvious that most of the pictures submitted will come from amateurs rather than photographers.

Change in Contest.

We have made a change in the contest which should be noted by all who are interested. At the beginning, we chose one picture and returned the others. Now, we are keeping all good pictures so that from month to month they will be reconsidered and they may in the end win a place on the cover. If they do not, they may win a place on inside pages. No pictures will be returned, therefore, unless they are entirely unsuitable. If, at the end of the year, they are not usable in either place, they will be returned to the owner. Should they be chosen for inside pages, they may remain over until 1938 before they are finally used; but if they are retained, they will be used.

Subjects.

Since the Leverette boy sat on the hive in February, we have received more pictures of boys and girls in the bee yard than of any other subject. It is interesting, but we already have four fine pictures. So, if you have good human interest pictures of children in the bee yard, and you are sure they are very unusual, send them. Otherwise, don't send them.

The next largest group of pictures is of honey plants and we have three of those that are exceptionally good. The limits are drawing pretty tight. Send only the very best for the cover. However, if you think you have something that is just as good for inside pages, don't hesitate to send it. There are now two places open, the cover and the inside space, and you may get in one place if you don't in another. We do not have enough pictures of bees that are unusual.

We will not attempt to enumerate all the pictures we have. Every picture has been acknowledged. Remember if you send a picture which we keep to use for either cover or inside space, you may take your choice of either of the three books autographed by the author, with a picture of the author included: "American Honey Plants," by Frank C. Pellett; "Huber's Observations on Bees" or "The Honeybee," by C. P. Dadant. If you prefer any book published by the American Bee Journal other than the three listed, we will be glad to send that instead; but you will have to name the book you want.

—*ABJ*—

Georgia Inspection Program

Georgia has appropriated sufficient money to carry on the bee inspection work this year. Four full-time inspectors will be on duty and two deputy inspectors will be subject to call when needed. At this time all inspectors are making inspections for the package shippers.

Some of the rules governing our inspection service have been changed to control and meet conditions and problems of today. Georgia's old regulations, like those of some of the other states, were established in horse and buggy days. The problem of today is migratory beekeeping with high speed trucks. The more bees are moved, the more disease will be picked up and scattered, and the more need for a greater and efficient inspection service.

Some of the inspection regulations are: All colonies in all yards must be inspected and all yards quarantined where A.F.B., E.F.B., and/or P.F.B. are found; a change in the classification of a shipper and the payment of a shipping license to control bootlegging of bees out of the state; a rule regulating the movement of bees and used equipment into the state (this includes shipping cages).

Our new regulations are not made to cause trouble for any beekeeper in or out of the state but to protect our beekeepers from diseased bees coming in and to protect northern buyers of package bees. Our inspection service wants to know that bees entering or leaving the state are disease free. Our department will cooperate 100 per cent with beekeepers and officials of other states.

This is the first time Georgia has made an appropriation for bee work. It was gained through the cooperation of the membership of the state association and its officers.

A. V. Dowling,
State Apiary Inspector.

SPRING HONEY WEEK

APRIL 19-24

OUR First Spring Honey Week, April 19-24, offers everybody in the industry an opportunity to develop a constructive sales promotion program. It contains the type of features that appeal to straight thinking men and women everywhere.

Focus your SALES power on grocers, bakers, candy-makers, restaurateurs, druggists, beauticians. Coordination at the point of sale is the key to volume and turnover. DISPLAYS make Honey Week successful. Promote them everywhere you can—little or big, they produce results. Use Honey Week to describe and demonstrate the merits of your particular honey. Commercial companies and trade journals will also find it interesting and profitable to tie in with Honey Week. Special material for Honey Week:

BROADCASTS

"My Honey Week Menu"—5 typewritten pages, 10c.
"The Spring Hostess Uses Honey"—6 typewritten pages, 10c.
"The Honey Way to Better Foods"—5 typewritten pages, 10c.

NEWSPAPER STORIES

"Honey Ideas for Spring Parties"—2 typewritten pages, 5c.
"A Romantic Food"—2 typewritten pages, 5c.
"The Versatile Sweet"—2 typewritten pages, 5c.

WINDOW STREAMER

(Ungummed—green printing on canary paper.) Size 4½x17 in.

"THIS IS NATIONAL HONEY WEEK. (Write American Honey Institute, Madison, Wis., for honey recipes.)

*Lots of 100	50c	Lots of 10	15c
*Lots of 50	35c	Lots of 5	10c
*Lots of 25	25c	Lots of 1	5c

*(Add 10c for postage)

STANDARD MATERIAL

1.—"Honey Demonstrations" (5 pp. outline, 36 pp. ref. text), 20c.
2.—"It's a Honey" brown and white, 6 pp. 12 all honeys recipes.
3.—"New Uses for Our Oldest Sweet," blue and white, basic recipes.
4.—"Honey for Canning and Preserving," green and white," 8 recipes.
5.—Flavor Harmonies with Comb Honey," blue and white, comb honey recipes.
6.—"100 Honey Helpings," 36 pp. 100 recipes, charts, basic rules, illustrated (seal of Acceptance, American Medical Association) 10c per copy.
7.—Display Outlines for these retail outlets, each copy, 5c.

(Sample copies of 2, 3, 4 and 5 with prices, sent upon request.)

Haphazard, unrelated efforts may produce results, but efforts that are skilfully planned and timed bring BETTER results. Put your Honey Week Requirements up to American Honey Institute right NOW.

Don't forget, American Honey Institute really has an address—American Honey Institute, Madison, Wisconsin—and for goodness sakes, use it. You can get any of this material. If you don't do your part, how can you expect results? Next year, if the Institute asks you to help yourself by giving them a little support to carry on with, don't say "I don't see what good it does me."

Star Ham Helps Out.

Did you see the beautiful illustration of the Honey Glazed Star Ham on the inside cover page of the April issue of McCall's? Not only the ham, but the fruit is glazed with honey. It is a dandy picture in colors. Enough to make your mouth water, (unless you are an invalid or a dyspeptic). It is "swell elegant." Of course, you know such work is the result of the Institute's activities. They don't just happen. And remember, McCall's has—how many readers? Well, if every reader represents a family of four, it has **several million.**

Why Not a Honey Week Party for the Children?

We suggest the use of the Fruit Hors D'Oeuvres from the California Fruit Growers' Exchange. See how they look and read how easy they are to make. Knowing how good honey is, it is easy to imagine how much the children will enjoy not only the interesting looking services but equally good-tasting.

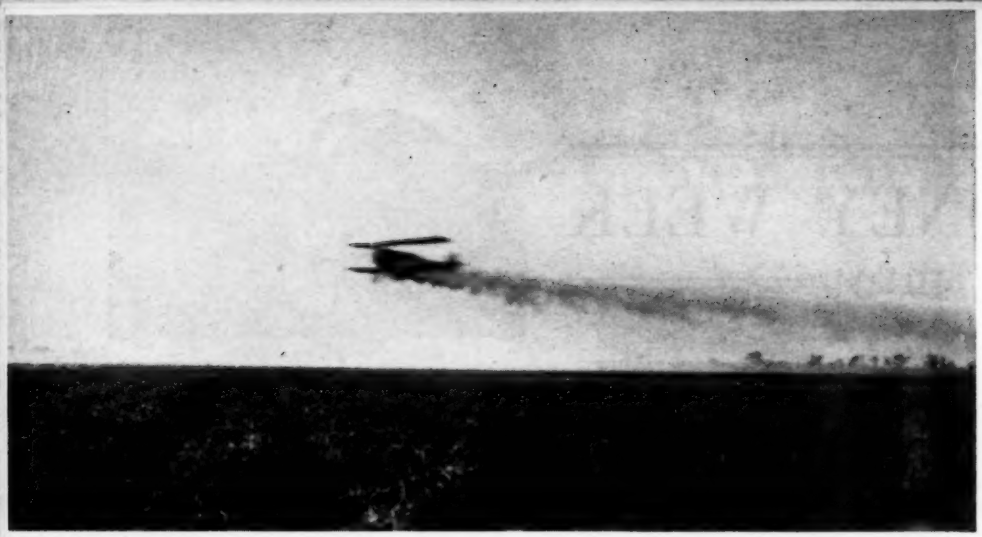
Fruit Hors D'Oeuvres.

For something good to eat as well as fun, serve fruit hors d'oeuvres at your next party and include this comical orange holder. Either the method illustrated may be used, or stick the empty toothpicks in the elephant and arrange all the fruit hors d'oeuvres on the plate. Each guest then takes a toothpick using it to select any tid-bit he wishes.

The Orange Elephant guest-of-honor is simple to make according to these directions: Use a sharp knife and mark off the ears and trunk. Pull away from the orange meat, taking care not to tear the peel. A strip of orange peel is pinned on for a tail. Legs are dates stuck on toothpicks with prune feet. Cloves are used for the eyes.

Fruit hors d'oeuvres shown are banana slices dipped in lemon juice and honey, and orange segments dipped in honey and rolled in shredded cocoanut. The party canapes may be made by spreading a wafer with peanut butter and honey, half and half, and placing an animal cracker on it for a novel design.

Hor d'oeuvres for the children's party.



High flying increased the amount of drift above the 50 per cent that normally drifts from fields dusted by airplanes.

How to Combat the Menace of Airplane Dusting

By Dr. J. E. Eckert,

University of California.

Symptoms.

AIRPLANE dusting—the practice involving the spreading of all types of poisons used in the attempted control of insect pests from an airplane flying at a speed of approximately 100 miles per hour and from five to twenty feet or more above the plants treated — results in the drifting of 50 per cent or more of the total amount of the poisonous dusts applied for a distance of one and one-half to three or more miles from the fields treated. These drifting poisons are deposited on all vegetation over which the poison cloud passes, causing the death in the field of all bees working on the blossoms for nectar, and poisons the pollen supply that the pollen bearers carry back to their hives, which in turn causes the death of the nurse bees and larvae. Entire apiaries may be killed within a period of a week or ten days or so reduced in strength as to be useless for the remainder of the season. Stricken colonies may dwindle and die weeks after the application of poisons or may live to struggle along weakly for months. Just recently more than 1100 colonies were killed in the Imperial Valley of California following the spreading of poisons by airplane over the territory in which they were feeding. Colonies may be three or four stories high, in full strength and in the midst of a honeyflow one day, and stricken unto death the day after the poison barrage is laid down over the countryside. Further, the brood combs in which the poisoned pollen is stored, cannot be used again without killing other bees until the combs are soaked for 24 hours and then dried to permit the bees to remove the pollen without using it.

The dead bees may be piled up in front of the entrances of the hives or may be scattered over the entire apiary and the fields in which they work. To the casual observer, little evidence exists on which to assign the cause.

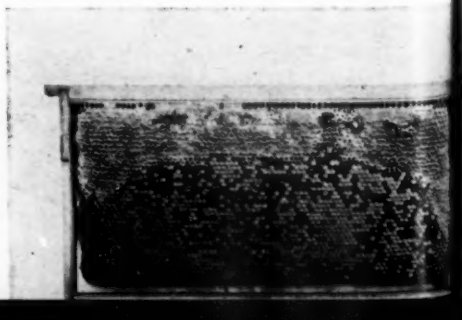
The fact that so much of the poison drifts from the fields treated causes the applicators to apply more poison than would otherwise be necessary, resulting in the heavy application of the poisons over the surrounding fields. These drifting poisons are injurious to dairy cattle, beef cattle, sheep, poultry, wild life and certainly constitute a hazard of no mean proportions to human health. If domestic animals are not killed, they may be stricken for several days or weeks before they recover. During this time, dairy cattle fall off markedly in milk production and all animals loose weight. Stacked hay and other forage crops may be poisoned thus and many weeks later injure the animals to which the material is fed. The same may happen to garden crops, drying fruits, or other food used for human consumption. "And every little bit of poison added to what we get under normal conditions makes just that much more."

What Is the Remedy?

First: Beekeepers must **organize!** Form county associations and have the county associations affiliate with state associations and the state associations affiliate with the American

At left, a perfect job of airplane dusting, the result of a colony killed outright following the application of calcium arsenate by airplane. The bees got the poison from fields over which the poison drifted; not from the field treated.

At right, result of airplane dusting showing sealed brood and eggs only. All unsealed brood has been killed.



Honey Producers' League. This is the first step. **Beekeepers cannot fight this fast growing menace alone.** If you are not affected now, organize to offset the injury before you are hurt. Airplane dusting is far more injurious than bee disease. This is not an exaggeration. **Second:** Educate the dairymen, cattlemen, poultry producers, civic organizations and your county supervisors to the dangers of this unethical practice and secure their aid in forming ordinances **to prevent the application of poisons by any means that will not confine the material applied to the fields or crops treated. Third:** Carry the educational campaign directly to your legislative representatives so they may be fully informed of the dangers of the practice when the time comes to get suitable state legislation so urgently needed to adequately control the sale and application of poisonous materials. **Fourth:** In case of an emergency, gather up your dead bees and take your pollen combs from colonies killed by the poisons to your state division of chemistry and have them analyze the material for the presence of arsenicals and other poisons. Get all other evidence together, such as the name of the commercial applicator, the poisonous materials used, position of your apiaries in relation to the fields treated, the extent of the visible drift, gather samples of vegetation in the line of the drift and have these samples analyzed for the poisons. Then go to your county and state associations and ask their aid in securing damages. Don't go to court without full evidence as the case will surely react against you and the industry. If you are a dairyman, cattleman, or poultry producer and your animals are stricken following the application of poisons in your vicinity (and the poisons may be applied at a considerable distance), be sure to call in your county or local veterinarian and have a complete diagnosis made for the cause of injury. Get the evidence and then ask for the assistance of other affected parties in carrying your case before the courts of justice.

This program is based on common sense principles. The grower has a right to apply poisons to his fields and crops in the control of injurious pests and no one can deny him that right **if the materials are applied in a manner that will not harm the interests or property rights of others.** There is no more ethics in the application of poison by means that cause the poisons to drift over vast areas beyond the field treated than there is in a man playing a steam calliope in the vicinity of a hospital simply because he has the equipment and the desire to do so. Smelter fumes causing the destruction of animal and plant life have been ruled destructive to the interests and property rights of individuals and the owners have been held liable for damages thus caused. These fumes carry arsenic. So why should any individual or concern be permitted to spread arsenic or other poisons by any means that causes the poisons to get out of control and to drift over the farms, gardens, and dwellings of others to the injury of their interests?

Beekeepers and other agricultural interests and private citizens must do everything possible **now** to stop this menace before it has a chance to grow to even more serious proportions.

—ABJ—

Bee Inspection in Michigan

By Elmer Carroll,

Michigan.

FOR the fiscal year 1934-35 the appropriation for state bee inspection in Michigan was $5,000. This was practically all used in inspection work. The legislature of the year 1935-36 appropriated $20,000, less 5% reduction on all appropriations, or $19,000. To this sum was added $47.28 carried forward and $34.61 receipts, and $2,000 advanced from 1936-37 appropriation. Of this total of $21,081.89, $19,485.58 was expended in inspection work.

Since 1927 when this state took active steps to eradicate foulbrood the beekeeping industry has steadily grown until today Michigan ranks second in the production of honey as compared to other states within the United States, being exceeded only by California which, in area, is nearly twice as large as our state. There are in Michigan today about 500 beekeepers who make their living by beekeeping. These beekeepers own from 200 to 1,000 colonies of bees each and are known as commercial or carlot producers.

During the 1935 session of the Legislature, legislation was secured which provided for registration of all apiaries annually and the payment of a registration fee depending on the number of colonies in each apiary. A minimum cost was set at 75c for each apiary of nine colonies or less while on each apiary of ten or more colonies a fee of $1.50 is paid. Most commercial producers have from three to twenty apiaries so, in proportion to number, they pay the largest fee of all. The largest fee paid by any one beekeeper was $36. A large number paid fees amounting to $20.00 or more, while the average fee paid by those maintaining more than one apiary is $4.50. The funds derived do not cover the costs of inspection but are reverted into the state's general fund to reimburse the state in part for the appropriation made by the legislature for inspection work. The annual state funds available are sufficient to cover about three-fourths of the counties under inspection each year.

Revenue from Registration June 1, 1935 to June 1, 1936.

8835 apiaries (9 or less colonies) @ 75c	$6,626.25
2671 apiaries (10 or more colonies) @ $1.50	4,006.50
Total revenue	$10,632.75

Nineteen counties received complete inspection in 1935 and twenty were completely inspected in 1936. Forty-eight counties received one complete inspection during the 1935-36 period in addition to those given an annual inspection. The following statistics show the present status of American foulbrood in Michigan.

24 clean counties.

19 nearly clean—less than 3% disease.

6 counties more than 3%, less than 5%.

17 counties more than 5%, less than 10%.

17 counties more than 10% disease.

—o—

Following is a summary of the work done this biennial period:

1935—Colonies inspected, 98,840; colonies with A.F.B., 6,368; per cent A.F.B., 6.4; yards inspected, 11,069; yards with A.F.B. 1,723; per cent A.F.B., 15.5.

1936—Colonies inspected, 93,954; colonies with A.F.B., 7,556; per cent A.F.B., 8.0; yards inspected, 10,937; yards with A.F.B., 2,003; per cent A.F.B., 18.1.

Totals (1935-36)—Colonies inspected, 192,794; colonies with A.F.B., 13,924; per cent A.F.B., 7.2; yards inspected, 22,006; yards with A.F.B. 3,726; per cent A.F.B., 16.9.

—ABJ—

Have You a Slogan?

Some time ago a suggestion was made that it would be fine if beekeepers had a slogan like the florists who use "Say it with Flowers."

A few take this seriously, and we really are serious. George Hankammer, of St. Louis, suggests "Eat honey every day in every way." We object to it on the basis that honey cannot be eaten in every way. In fact it has its own peculiar place and any dictum that it be used for everything would probably be a mistake.

Leslie Derby, of Arizona, suggests the 24th chapter of Proverbs, 13th verse: "Eat thou honey because it is good; and the honey comb which is sweet to thy taste." It is fair, but altogether too long. What can you suggest?

HERE AND THERE

Beekeeping in Matanuska

When the Matanuska colonists set sail from Seattle to Alaska, little did they dream they could keep bees in the Northland. But again Alaska has exhibited its many-sidedness. It has been proved by results of experiments of Lloyd Bell, one of the enterprising Matanuskans, that Alaska has amazing possibilities for beekeeping.

Each Matanuskan is now endeavoring to make himself independent of the government, and hope for honey production is seen that may make a number of the colonists independent.

According to word reaching Seattle, Mr. Bell has made a success of his venture in beekeeping—a venture which almost everyone said could not be productive or profitable in that country.

With several hives from a mail order house on the mainland, he is said to have achieved such success that the federal farm experimental station in the valley is now aiding him in further production of honey.

Wonders have already been accomplished with first agricultural products. Exhibits at the first Matanuska Valley fair were said to resemble fair days at home, many being even more remarkable than county and state fairs. There is a growing feeling that production of honey will likewise be on a paying basis.

C. M. Litteljohn,
Washington.

———ABJ———

To the Producers, Distributors, Users and Others Interested in the Packaging of Extracted Honey

Signed acceptances have been received from a sufficient number of producers, packers, distributors, users, container manufacturers, and others interested to authorize the promulgation of the current revision of Simplified Practice Recommendation R156, Containers for Extracted Honey. We are therefore in position to announce that the revision may be considered in effect as of February 1, 1937.

The new edition will be identified as Simplified Practice Recommendation R156-37, and as soon as they are available in printed form a free copy will be sent to you and to all acceptors of record, for file and reference. Additional copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for five cents each. A discount of 25 per cent on lots of 100 or more copies is available to those wishing to procure a supply of this publication for business purposes. — W. E. Braithwaite, Division of Simplified Practice, U. S. Dept. of Commerce.

———ABJ———

Biennial Report from Nevada

The biennial report of the State Apiary Commission of Nevada for 1935 has been issued from the state printing office at Carson City. The following deputy inspectors are listed: W. B. Bridgman, Reno; E. L. Green, Lovelock; Milton S. Earl, Overton; C. E. Andrews, Fallon; F. L. Hall, Yerington; W. E. Warren, Sparks; F. W. Koehler, Smith; and J. E. Patton, Lamoille. A tax levy of twelve cents per stand was levied on 8,408 stands in 1934 and 10,578 in 1935, with expenditures under the commission for inspection $2,525.12.

From a low point in 1934 of 8,408 colonies, there has been an increase to 10,578 which will probably continue until the normal number, present before the unfavorable weather and price conditions, occurs. The increase in the number of bees in the state seems to be general.

During the biennium covered by the report, the average honey production has not averaged over fifty per cent of normal, the chief reason being because the first cutting of alfalfa failed to produce nectar as it should. The second cutting of alfalfa yielded well. The price was low, 5 cents for large amounts being the maximum.

The drought of the past several years seemed to have reached its peak in 1934 and nearly normal rainfall occurred in 1935. The alfalfa acreage has increased. The storage dam on the Humboldt River is nearing completion and, with favorable winter conditions, sufficient water for the Lovelock area will be available.

A cooperative agreement exists between the State Apiary Commission and the Division of Plant Industry of the State Department of Agriculture, by which samples of honey submitted by beekeepers are given official grades. This is still being continued and is very popular.

Inspection summary indicates inspections for the biennium, of 21,232 colonies with 416 diseased and 255 destroyed.

Mr. Schimdt Invites You to Improve Your Education

C. E. Schmidt, Ngapala, via Hampden, South Australia, writes us a fine article about that country which will be published later. He also says "I shall be pleased to write to beekeepers who wish to correspond with me." We give his address, so write him if you wish to improve your information about that great country. I think correspondence with beekeepers in other parts of the world is delightful.

———ABJ———

Bronx Association Meets April 11

The April meeting of the Bronx Association will be held at 1324 Franklin Avenue, Bronx, Sunday afternoon, April 11, at 2:30 p.m. This is the new winter headquarters, and the first meeting there. The guest speaker, John Conner, president Essex County (New Jersey) Association, will demonstrate the use of the full depth frame in the production of cut comb honey. Mr. Conner is editor of "Essex County News" in Beekeepers Item. Don't miss it.

The March meeting will go down in history. Frank Pellett, one of the editors of American Bee Journal; Allen Latham; F. W. Gravely; John Conner; A. L. Axtell; C. L. Howk; and others were speakers.

Don't miss the April meeting. It will be the last indoor meeting this season.

John S. Ferguson, Secretary,
150 W. 78th St.,
New York City.

———ABJ———

Indiana April Meetings

Date—County	City	Time
1—Vigo;	Terre Haute	1:30 p.m.
2—Sullivan;	Sullivan	1:30 p.m.
3—Clay;	Brazil	1:30 p.m.
5—Owen;	Spencer	1:30 p.m.
6—Greene;	Linton	1:30 p.m.
7—Daviess;	Washington	1:30 p.m.
8—Pike;	Petersburg	1:30 p.m.
9—Gibson;	Oakland City	10:00 a.m.
9—Gibson;	Princeton	2:00 p.m.
10—Vanderburgh;	Evansville	1:30 p.m.
12—Posey;	Mt. Vernon	1:30 p.m.
13—Warrick;	Boonville	1:30 p.m.
14—Spencer;	Rockport	1:30 p.m.
15—Perry;	Tell City	1:30 p.m.
16—Washington;	Salem	1:30 p.m.
17—Hamilton;	Noblesville	1:30 p.m.
19—Putnam;	Greencastle	1:30 p.m.
20—Parke;	Rockville	1:30 p.m.
21—Vermillion;	Clinton	1:30 p.m.
22—Knox;	Bicknell	1:30 p.m.
23—Lawrence;	Bedford	1:30 p.m.
26—Carroll;	Delphi	1:30 p.m.
27—White;	Monticello	10:00 a.m.
28—White;	Monon	1:30 p.m.
29—Jasper;	Rensselaer	1:30 p.m.

BEE POISONING

Through the Use of an Arsenical Orchard Spray

By Erdman Braun,

Dominion Experimental Farm,

Manitoba.*

DEPREDATIONS of insects, so noticeable during the last few drought years, necessitated extensive poison spray and dusting programs. Aeroplane, machine and hand applications of poison dusts and sprays saved millions of dollars' worth of field, orchard and garden truck crops. However, beekeepers, in the vicinity of such poisoning processes, suffered very materially through rereduced honey yields and loss of colonies from their apiaries. Such losses to beekeepers have not been confined to the last few years, but extend back to 1894, into the early history on the use of insecticides on this continent.

Arsenical poisons, mainly, seem to have caused the greatest consternation among the beekeeping fraternity. A review of the literature would be impractical in this paper, but research workers will find an adequate summary, with results of the more recent work in this regard, in Dominion Department of Agriculture Bulletin No. 162, new series, "Apple Pollination Studies in the Annapolis Valley, N. S. (1928-32)" compiled by W. H. Brittain.

In 1933 an extensive spray program was inaugurated at the Dominion Experimental Station, Morden, Man., to combat the ravages of the fall cankerworm, which was defoliating the orchard and shade trees. A flood on May 23 inundated the apiary, causing considerable havoc to experimental projects, thus eliminating any possibility of definite conclusions as to whether the resultant effects on the colonies were due to flooding or spray poisoning. However, the season of 1934 afforded a better opportunity for a more definite study of the effect of spray poisoning on colonies of bees.

*The work described in this article was carried out by the author in cooperation with the Bee Division at Ottawa.

TABLE 1.

COMPARISONS OF COLONIES SUBJECTED TO ORCHARD SPRAY AND THOSE REMOVED DURING THE SPRAYING PERIOD—JUNE 18, 1934.

Colonies subjected to Lime-Sulphur-Lead arsenate spray.

No. of Col.	Spring Strength May 3	Before Spraying May 15	Before Spraying June 15	Over-wintered or Package	Remarks and Yield
	Bees-Brood Eggs	Bees-Brood-Eggs	Bees-Brood-Eggs		
2	3-0-0	3-2-1	2-1-1	2-lb. P. Apr. 30	71.0
3	3-0-0	3-1-2	6-3-2	2-lb. P. Apr. 30	285.0
10	4½-0-1	5-2-1	¾-0-¼	O. W.	United with C2, June 18
13	4-0-1	4-1½-1½	1½-1/16-¼	O. W.	United with C2, June 18
15	4-1½-1½	4-2-1	2½-1½-½	O. W.	110.0
16	5-1-2	4-1½-1½	¼-tr-tr	O. W.	United with C15, June 18
17	3-0-1	3-1-1	¾-tr-tr	O. W.	Absconded June 17
34	3-1-2	3-2-1½	2½-1-1	2-lb. P. Apr. 14	88.0
40	4-0-½	4-0-3	2½-1-1	O. W.	92.0
50	3-1-1	3-2-2	2-½-½	2-lb. P. Apr. 14	United with C53, June 23
53	2½-0-1	3-¾-1	5-2-2	2-lb. P. Apr. 25	108.0
54	3-½-½	3-1-1	1-1/16-¼	O. W.	United with C15, June 18
58	5-¼-½	3-1¼-1	¼-0-1/16	O. W.	United with C15, June 18
59	4-0-0	5-0-0	1-0-½	O. W.	Requeened May 5 United with C64, June 18
61	3-¾-1	3-2-1	5-1-2	2-lb. P. Apr. 25	101.0
64	4-1-1	3-1½-1	2½-½-½	O. W.	United with C110, June 23 Requeened May 5
70	2½-0-0	1½-0-½	2-1/16-½	2-lb. P. Apr. 25	United with C72, June 23
72	2½-0-1	3-1-1	2-¼-½	2-lb. P. Apr. 25	86.0
99	3-0-1	2-1-½	½-tr-tr	O. W.	United with C110, June 18
110	5-½-2	9-3-2	14-3-2	O. W.	225.0
Total	71-7½-18	71½-26½-24½	53⅝-14½-15		1166.0
Avge.	3½-1/3-1	3½-1¼-1	2½-⅝-⅝		(On basis 20) 58.3

CHECKS—Removed to Outapiary May 14, 1934

No. of Col.	Spring Strength May 3	Before Spraying May 15	Before Spraying June 15	Over-wintered or Package	Remarks and Yield	
	Bees-Brood-Eggs	Bees-Brood-Eggs	Bees-Brood-Eggs			
55	3-0-½	4-2-1	9-3-2	2-lb. P. Apr. 25	Div. June 18	159.0
68	3-¼-1	3-1½-1½	6-2-2	2-lb. P. Apr. 25		44.0
76	4-0-1	4-2-1	7-2-2	O. W.		142.0
83	4-0-1	4-1-1	9-3-2	O. W.		182.0
6	4-0-1	6-1-1¼	9-4-3	O. W.		175.0
44	6-0-1	6-2-2	5-2-1	O. W.	Div. May 28	180.0
33	2½-0-1	3-1-1	7-2-2	O. W.		62.0
1	3-1½-1½	4-2-1	9-3-3	2-lb. P. Apr. 14		269.0
9	3½-0-0	4-1-2	9-4-2	O. W.	Requeened May 3	265.0
7	3-2-1	5-2-2	8-3-2	2-lb. P. Apr. 14		195.0
88	3-0-1½	4-2-1	9-3-2	2-lb. P. Apr. 25		156.0
39	3-0-1	4-1-2	8-3-2	O. W.		120.0
79	6-1-1	4-1½-1½	6-2-1	O. W.		28.0
49	3-0-½	3-1-½	6-1-1	O. W.		101.0
62	3-0-1¼	4-2-2	9-3-2	2-lb. P. Apr. 25	Div. June 18	294.0
37	1-½-½	2½-1-½	6-2-2	O. W.		61.0
71	2½-0-1	3-1-1	8-3-2	2-lb. P. Apr. 25		137.0
73	2½-0-1	3-1-1	7-2-2	2-lb. P. Apr. 25		54.0
51	2½-½-½	2½-1-1½	4-1-1	O. W.		161.0
85	6-0-1½	6-1½-2½	5-2-1	O. W.	Div. May 25. A.F.B.	75.0
Total	68½-7⅝-18¾	79-28½-27¼	146-50-37			2860.0
Avge.	3½-1/3-1	4-1½-1	7-2½-2½			143.0

TABLE 2.

Weather Factors and Analysis of Bees Affected by Spray Poisoning (Lime-Sulphur-Lead Arsenate)

Date	Temperature Max.	Temperature Min.	Direc. Wind	Hrs. Sun	Rain-fall	Nectar Sources	Col-lected	Where Collected	Chm. Anl. Mgs. of Arsenic per Bee	Remarks
May 22	66.5	36.0	S.	8.4	--	Wild & cultivated fruit bloom	100	Apiary	0.0001	Bees alive, in agony, abdomens dis.
May 23	59.5	40.0	N.W.	13.8	--	" " " " " "	102	Apiary	0.0001	Few bees flying.
May 24	72.2	34.0	N.	14.2	--	" " " " " "	None	-- ---	-------	Bees flying freely in P.M.
May 25	83.0	49.0	S.W.	13.9	--	" " " " " "	143	Apiary	Free	Bees flying freely.
May 26	92.0	52.0	S.E.	10.8	--	" " " " " "	164	Apiary	0.00005	Bees flying freely.
May 27	102.0	68.0	S.W.	10.5	--	" " " " " "	None	-------	-------	Bees flying freely.
May 28	88.2	65.0	N.W.	11.9	--	" " " " " "	190	Apiary	0.00008	Bees flying freely.
May 29	92.5	48.0	S.W.	12.8	.10	" " " " " "	154	Apiary	Free	Bees flying freely.
May 30	108.0	66.0	S.W.	5.4	.26	" " " " " "	69	Apiary	0.00005	Few bees flying before 4 P.M.
May 31	63.2	63.0	N.W.	1.9	--	" " " " " "	238	Apiary	0.00002	Few bees flying.
June 1	86.5	44.0	S.E.	13.3	--	" " " " " "	169	Apiary	0.00006	Bees flying freely.
May 22-3	---	---	----	---	--	" " " " " "	115	Orchard	0.00005	Few bees flying.
May 25-6	---	---	----	---	--	" " " " " "	107	Orchard	0.00005	Bees flying freely.
May 28-9	---	---	----	---	--	" " " " " "	77	Orchard	Free	Bees flying freely.
May 31	---	---	----	---	--	" " " " " "	120	Orchard	0.00003	Few bees flying.
June 1	---	--	----	---	--	" " " " " "	169	Orchard	0.00003	Bees flying freely.

The orchards at the "Station" comprise 110 acres. In the earlier plantations plum and apple trees were interspersed, but in the later plantings plum, apple, pear and cherry trees were segregated into individual orchard blocks. Cover crops are only grown in the non-bearing stands, while the black-fallow method of cultivation is strictly adhered to in the bearing stands. The latter method precludes any danger of poisoning from secondary cover crops, viz.: clover, alfalfa, etc.

The following table outlines the results obtained from twenty colonies subjected to spray poisoning from the station orchards and twenty colonies removed to an outapiary three and a half miles from the station. As far as it was possible to procure, uniform colonies were selected, as to strength in bees, type of colony, age of queen, etc.

The above table shows that the colonies were of a uniform average strength on May 15 before spraying. In one month the colonies subjected to spray poisoning were reduced in strength, on the average, from 3½-1¼-1 frames of bees, brood and eggs respectively, to 2½ - ¾ - ¾ frames of bees, brood and eggs, whereas the check colonies had increased from 4-1½-1 frames of bees, brood and eggs, to 7-2½-2½ frames of bees, brood and eggs, on the average. Ten of the colonies subjected to spray poison were in such a weakened condition on June 15 that it was necessary to unite them a few days later. The queens from the united colonies were introduced to increases at the outyard. The majority of queens, so treated, gave a creditable account of themselves before the end of the season, showing that the queens were not responsible for the weakening of the colonies. Colony 17 absconded June 17 in a similar manner as that pertaining to a large number of colonies in 1933. In that year, when considerable of the brood was poisoned and the hive and field bees were rapidly decreasing, but food was plentiful in the hive, the whole colony swarmed out, and wandered aimlessly around the apiary, finally entering the hive of the strongest colonies in the yard. At one time, five such swarms entered one colony within a two hour period. The guest queens were not balled or disturbed in any way by the bees in the host colony. The five queens were removed after the fifth swarm had entered the colony.

Package bees in 1934 were not affected by spray poisoning to the same extent as over-wintered colonies. These results are similar to those obtained by Dr. W. H. Brittain and his associates.

The total production from the group of 20 colonies subjected to spray poison, 1166.0 pounds, would mean financial ruin for the commercial apiarist in Manitoba.

Samples of adult bees were collected during the period of active spraying. One group of bees was taken from the "crawlers" in front of the hives in the apiary, and the second group was collected from colonies placed in the orchards. Pertinent data as to weather, chemical analysis, and bee activity are given in the following table:

From the work done in Nova Scotia, by Dr. W. H. Brittain, mentioned previously, it is considered that 0.00004 milligrams of arsenic per bee may be considered suspicious of arsenic poisoning, and where quantities as large as 0.00008 milligrams of arsenic per bee are found poisoning from arsenic is certain. Using these data samples of adult bees obtained May 26 and 30 in the apiary may be considered as suspicious of arsenic poison and those obtained May 22, 23, 28 and June 1 as definitely certain of arsenic poisoning. All of the samples obtained in the orchard, with the exception of the one collected May 28 and 29, may be considered as suspicious of arsenic poisoning.

Spraying with lime-sulphur was begun on May 16 for Red Spider, and arsenate of lead was added May 17 for the fall cankerworms. Trees in bloom as well as those not in bloom were sprayed. No apparent evidence of poisoning was noted until the afternoon of May 21, the weather being hot and dry. The spray dried very rapidly on the leaves and the bees were observed working on sprayed bloom fifteen minutes after spraying. A very light shower on the 20th probably placed the dried arsenic on the leaves into a soluble form, which was consequently gathered by bees on the morning of the 21st. Bees were observed lapping up the moisture on the leaves of the trees in bloom or otherwise in the mornings, although an ample supply of water was always available in the center of the bee yard, and in close proximity to the colonies in the orchards.

One colony showed about 1 per cent of poisoned pupae and larvae on May 26. Rainy, dull and cool weather during the first two weeks of June confined the bees to their hives. An examination of colonies in the apiary June 15 showed pupae and larvae poisoning varying from 1 to 80 per cent. Samples of pupae and larvae were not analyzed for arsenic content, but were judged by their characteristic appearance. The percentage of poisoned brood varied greatly in the colonies, one colony showing very little evidence of poisoning at any time during the entire period. Adult bee poisoning symptoms however, were noted in all colonies. No poisoning was evident after sweet clover began to yield nectar, June 22.

Detailed symptoms of arsenical poisoning have not been described because they were very similar to those described by J. E. Eckert, in the article entitled "Airplane Dusting and Its Relation to Beekeeping" in the American Bee Journal Vol. 75 (2):59-61, Feb. 1935.

Every Hive a Scale Hive

By Walter Joslin,

Michigan.

Above, finished stand and weighing device. At left, an aspiring youngster shows how easy it is to use.

AT one time whenever I visited a bee yard I would wish I had a hive on a pair of scales. I never could get enough money for a scale to answer the purpose. But as the saying goes "If you want a thing bad enough, you will get it in time," I finally hit on the idea of a scale I could use, not only for one hive but for all.

I bought a spring scale like the junk man uses, one legal to use in trade to 200 pounds capacity. I would prefer 300 pounds capacity. With a hack saw, I cut down through the hook about an inch, and, with a cold chisel, spread the saw cut open so a No. 11 flat-head wood screw would fit in the notch just back of the head. Then I made a mark at the center of a piece of angle iron 86 inches long, 3/16 inches thick with 1 inch flanges. I also measured 6 inches each way from the center mark and made a mark in each spot. With a hack saw, I sawed through one flange at both 6 inch marks, straightening it out flat between the saw cuts through the center, making a 2 inch stand to rest on the ground.

Then I bent the ends at the saw marks, so that the flanges would be on the outside, and the two ends would come together to form a triangle 12x37 inches.

I then measured back from the two open ends 17 inches on both pieces and bent the ends at the marks so that the ends were parallel, forcing them together so that they were about ⅝ inches apart.

The handle works between these two 17 inch pieces. In these handle ends, ⅜ inch holes were drilled every 2 inches. For a handle I used a 5/16 x1 inch iron, about 34 inches long, a good stiff temper. A ⅜ inch hole was drilled ½ inch from the end, and 7 inches further on another ⅜ inch hole. The remaining end was heated red hot, put in a vise and given a quarter turn 4 inches from the end, to serve as a handle to bear down on when weighing.

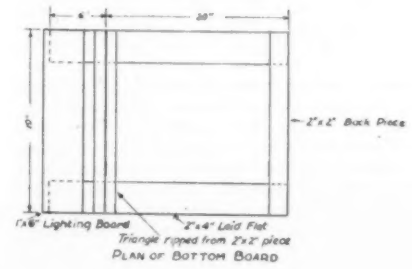
Then a ⅜ inch machine bolt, 1 inch long, was used to fasten the handle upright. The scale was fastened on with a small U clevis to the end of the handle and my scale was complete.

I could not use it on the hive without remodeling the hive stand, however. So hive stands were made of two pieces of 2x4 or 2x6 inch stock. The 2x6 were ripped to 2x3. Each piece was cut about 4 inches longer than the hive bottom, one end on a 45 degree angle.

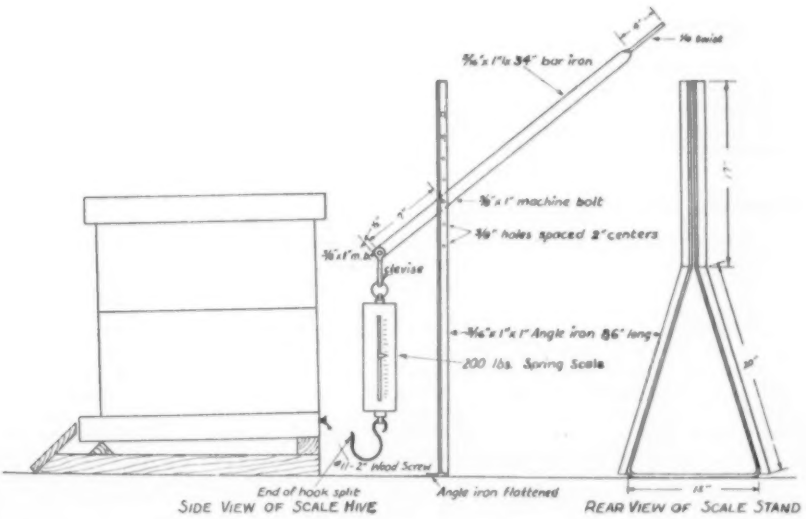
I ripped out some 2x2 stock about 1 inch longer than the width of the hive. One of the pieces was ripped cornerwise, giving me two pieces that were three cornered. Then a 6 inch board was cut the same length as the 2x2.

Two pieces of the 2x4 were laid down with the square ends one way. A 2x2 was nailed on top flush on the

(Continued on page 191)



PLAN OF BOTTOM BOARD


5/16"x 1"x 34" bar iron
⅜"x 1" machine bolt
⅜" holes spaced 2" centers
clevise
3/16"x 1"x 1" Angle iron 86" long
200 lbs. Spring Scale
No. 11- 2" Wood Screw
End of hook split
Angle iron flattened

SIDE VIEW OF SCALE HIVE

REAR VIEW OF SCALE STAND

EDITORIAL

Bees and Flowers

Due to the many problems which have developed from growing specialized crops in large blocks, an intensive study of pollination is being made by several specialists.

Since the honeybee is the only insect which can be controlled by practical methods, her relationship to the problem is a vital one. Her constancy to a particular flower during its period of bloom is at times a decided advantage and at others a disadvantage. It is advantageous when the bee is attracted to the particular plant to be pollinated. Since dandelion pollen would not pollinate an apple blossom it is a happy circumstance that leads the bee to visit only apple blossoms on the same trip. Flying from one apple blossom to another she carries the precious pollen and insures the fertilization of the flower.

When, however, she insists on visiting only dandelion blossoms when apples are in bloom the fruit grower finds little assistance from her activities.

The bumblebee shows no such constancy. She flies happily from one flower to another without regard to any relationship which they may sustain to each other. She may visit in turn flowers of very different qualities on the same trip. Thus even though the numbers were equal, bumblebees would be much less dependable as agents in the distribution of pollen.

The competition between flowers of different kinds for the attention of the honeybee at times offers a serious problem to the fruit grower. Generally speaking, the flowers secreting the most abundant nectar, or the most highly concentrated nectar will attract the bees. To secure visits to all at the same time may require a very large force of bees and the number of colonies required thus may be greatly increased over what would serve if there were no competing blossoms.

—ABJ—

Living in the Present

An English beekeeper who made a tour of this country in 1888 wrote a very pleasant account of his impressions of America for the British Bee Journal.

Concerning Dr. C. C. Miller he said: "Dr. Miller is one of those men who like to enjoy life as it comes along—he wants to enjoy it right here, and objects strongly to that class 'who never are, but always to be blest.' Therefore he has quitted city life for many years and has settled down with his good wife on a pleasant hill, commanding pleasant views of fine country. Dr. Miller has found happiness and enjoyment, and allows the cares of the world to rest but lightly on his shoulders."

The greatest attraction of beekeeping as an occupation is the opportunity which it offers to the one who does not undertake too much, to find his happiness in his everyday living and not postpone it until some prospective date somewhere in the uncertain future.

—ABJ—

Beeswax in Medicine

The comment on the medicinal value of honey in our February issue adds a bit of interest to a very old reference to apostolic ointment containing beeswax quoted from the London Dispensary in 1718:

"It consumes corrupt and dead flesh and makes flesh soft which is hard, cleaneth wounds, ulcers and fistulas and restores flesh where it is wanting."

We are not informed as to whether the cleansing qualities were ascribed to the presence of beeswax or whether the wax was merely for the purpose of making an ointment of the right consistency. Perhaps there may be more of value in some of the old remedies than we have been inclined to credit.

Spring Dwindling

Beekeepers of an earlier day spent much time in discussing what they called "spring dwindling." This was a rapid reduction of the number of bees in a hive in early spring. Although we hear less about it now the condition still prevails in many localities.

It is only in very recent times that we have come to understand that this condition is caused either by failing queens or by a dearth of pollen which delays brood rearing.

Failing queens can be replaced but a shortage of pollen is not so easily cured. Although the bees will take meal or other pollen substitute in the absence of natural pollen, there is as yet insufficient evidence to warrant placing much dependence upon them.

April is a critical month for the bees in all the northern states and in some southern localities as well. Every colony should be examined to make sure that there are ample stores. A shortage of honey can be supplied by feeding sugar syrup and this should not be neglected. With plenty of stores the colony population normally increases very fast at this season. If there is a shortage of pollen breeding will proceed slowly regardless of liquid stores. If the weather is suitable to permit the bees to fly they are likely to bring in fresh pollen but there are many days when the bees are confined to the hive because of rain or chilling winds.

Since the work done by Farrar and Todd has served to call attention to the serious shortage of pollen in many places, it is to be hoped that these investigations will be carried forward until a remedy is found for this condition. Perhaps a suitable substitute for natural pollen can yet be found, or if not some way of storing a surplus of natural pollen in localities where it is abundant for use in cases of need.

—ABJ—

Pollen Substitutes

A recent news release from the University of Minnesota states that Dr. Mykola Haydak has found that a mixture of soybean flour and powdered skim milk serves as a substitute for natural pollen which enables the bees to rear brood. Lacking direct report of Haydak's results we assume that this refers to investigations carried on since the writing of his paper which appeared in the October, 1936, issue of Journal of Economic Entomology.

At that time Haydak wrote:

> "Bees can develop their bodies normally when fed meat scrap or commercial casein mixtures. Development on cotton seed meal, ground dried blood, digested tankage, whole oats flour and whole wheat flour proceeded more slowly. The development of the bee body on corn flour, fish meal and pea flour was very poor.
>
> "Only the control, meat scrap, and cottonseed meal fed colonies produced young bees. Those fed with commercial casein, ground dried blood, digested tankage, whole oats flour and whole wheat flour unsuccessfully attempted to rear brood. The fish-meal, corn-flour and pea-flour fed colonies did not even attempt to rear brood."

The bees under observation were deprived of natural pollen and given the various items above mentioned instead. If it proves to be true that soybean flour and powdered skim milk offer a suitable substitute for natural pollen it may solve a very serious problem for many beekeepers who are located where there is a dearth of pollen for long periods in advance of a major honeyflow. We await with much interest further reports of Haydak's experiments.

Increasing Red Clover Seed

Decreasing yields of red clover seed are a source of anxiety to specialists in several of the agricultural colleges. As before stated on this page, they usually credit the change to the diminishing number of bumblebees.

Since red clover fills a place in farm rotation that no other plant can supply much study has been given to finding a solution of the problem. Those interested should read the paper by Dr. J. N. Martin in the report of Iowa State Apiarist for 1934. Dr. Martin reviews the subject at length and incidentally makes suggestions of interest to the beekeeper.

With an average yield in the mid-western area of only a little more than one and a third bushels of seed per acre the price of necessity must rule high. High priced seed discourages the farmer from maintaining the desired acreage and the quantity grown thus tends lower and lower to the detriment of soil fertility.

Dr. Martin discusses at length the problem of pollination and the consequent reason for light seed production. In most cases the corolla tubes are too deep to enable the honeybee to reach the nectar. In localities where other plants are blooming which offer a supply of nectar the honeybee neglects the red clover in their favor. While the bee does get pollen from red clover and when she visits the plant in sufficient numbers does a good job of pollination, she seems disinclined to visit the plants for pollen only. In places where there is no competition from other plants the bee may pollinate the red clover blossoms as is the case in Idaho and Colorado where about four and a half bushels of seed are harvested on a per acre average.

With complete pollination it might be possible to secure ten or twelve bushels of seed per acre and as high as sixteen bushels have been recorded.

Since red clover is dependent almost entirely upon bumblebees and honeybees for pollination the problem is quite clear. If the number of bumblebees cannot be increased substantially we must depend entirely upon the honeybee to perform this service. In localities where the honeybees refuse to visit the flowers we can expect no seed.

For fifty years the bee magazines have been discussing this problem and the usual suggestion has been to breed a bee with a longer tongue. Of late we hear also the suggestion that we breed a red clover with a shorter flower tube. Perhaps if we do both we may solve the problem.

We have unnumbered cases of the modification of structure in both plants and animals to conform to the needs of environment. There must be red clover plants already in existence where the corolla tube has become shortened enough to permit the honeybee to secure the nectar. Such flowers would quite naturally be perpetuated. Perhaps the fact may not have been noticed.

We are anxious to learn of cases where red clover has been grown from the same strain of seed year after year in the same neighborhood. Perhaps natural selection has already been at work, if we can find out where. With such stock with which to start, a breeding project such as that reported by Prof. Zofka of the University of Prague may be expected to show substantial progress.

We hope that readers of this magazine will watch closely any fields of red clover within reach and observe whether honeybees visit the flowers freely and watch the resulting seed production. If red clover can be adapted to the needs of the honeybee it should result in enormous increase in bee pasturage as well as bringing back a much needed forage plant in mid-west farm rotation.

—ABJ—

Finding Equality

One has only to read the newspapers or listen to the radio to realize that we are living in a troubled world. Every group seems concerned only for its own interests and we find one set of men bringing pressure upon another to compel concessions of one kind or another.

As long as men continue to settle their differences by force some groups will suffer inequalities. The national objective should be to provide for every man equality of opportunity and a fair share of the returns for his own labor. As things now stand men who are unorganized often find it necessary to give the product of two hours of labor for something which another in more fortunate situations has only worked half as long to provide.

It would seem that in this enlightened age better means could be found for distributing the benefits of the nation's abundant production. If men would try the golden rule formulated so long ago by the teacher in Galilee it is possible that it might be made to work. If it was used equally by men on both sides of a controversy instead of the methods of compulsion now in effect there is no apparent reason why results should not be prompt and satisfactory to all concerned. The elimination of waste and loss such as we now anticipate would care for the weak and unfortunate. There would be plenty for all and no need for the strong to prey upon the weak as now too often happens.

—ABJ—

Liquid Honey

When first the extractor came into use beekeepers were much puzzled as to a suitable name for the new implement. "Honey slinger" was the name quite generally used for a time and such a term as "honey emptying machine" was not uncommon.

Gradually the word "extracted" for the liquid honey and "extractor" for the machine which produced it came into use. No really suitable name has ever appeared and it is now too late to coin something which might express the correct idea. In these later days new words often appear when a new article of equipment is invented and it would seem rather unfortunate that such was not the case when first the beekeeper learned how to separate the honey from the comb.

Some of the names proposed were ridiculous. As an example the term, "divorced honey" was seriously proposed. Certainly the term divorce would suggest separation but hardly in the sense in which it is used in the case of honey when removed from the comb.

—ABJ—

Looking Ahead

It is not too early to remind our readers that the best and biggest meeting of beekeepers ever held in the United States will take place in Washington, D. C., this coming fall. The dates have definitely been set for October 25, 26, and 27, with headquarters at the Washington Hotel.

These international meetings of beekeepers have been so popular and so well attended during the past few years that it is no longer an easy matter to find adequate hotel accommodations. In fact, in a city like Washington, accustomed as it is to visitors and conventions, there are only some six or seven hotels with facilities adequate to handle our customary crowd. The Washington Hotel, however, offers excellent facilities. The entire seventh floor has been turned over for our use. This includes the beautiful Rose Room, where the exhibits will be placed. At the opposite end of the hall will be the assembly room for all the large meetings. Off this connecting hallway is an outside balcony that will accommodate a hundred or more persons, from which an unobstructed view of the city is afforded overlooking the Treasury and the White House. Those who want a breath of fresh air can readily get it. It will be a good place also for twos and threes to hatch schemes and intrigues, yet everyone will be within call. On this floor is also a kitchen that will be utilized by the ladies of the American Honey Institute.

It would be a mistake to hold any convention in the Nation's Capitol without some thought being given to a little play, and the committees that are planning the programs of the various organizations are keeping in mind the old adage "All work and no play makes Jack a dull boy." Consequently, allowances are being made for sightseeing and pleasure jaunts, and since there is so much in Washington that every citizen of the land should see, three days will not be enough, so you had better come prepared to stay a couple days longer.

Owing to the unusually fine facilities for exhibits, much will be made of this feature. Commercial concerns who desire space should immediately get in touch with the secretary of the League, George J. Abrams, University of Maryland, College Park, Md., indicating the amount of space wanted and the type of exhibit that will be installed.

No other city in the United States offers the publicity that Washington can give. Every important newspaper in the country has its Washington correspondent permanently located in the Capital; also many foreign newspapers maintain representatives here. These with the embassies and legations of all foreign powers should give the beekeeping industry the finest opportunity it has ever had for nation-wide publicity.

Comments from Wisconsin

I have been reading accounts of the cooperative foulbrood experiment with eager interest, as what beekeeper hasn't. Is it not possible that one or more valuable characters are being neglected in the use of only one method of inoculation? I notice in the government bulletin on the use of contaminated honey the statement that a certain per cent of colonies took the disease at a 50,000 count, and some resisted even a much higher count. Is the character that enables them to eat contaminated honey the same character that is being bred for in the experiment? If there is a strain of bees somewhere that can digest or otherwise void any degree of contamination carried in honey, will it be necessary to breed a strain that will tear the comb to pieces? Or, will sure-fire resistance depend upon different characters which can be best studied separately, then combined?

Three years ago I bought a cow which, from the ears back at least, was a magnificent specimen, having a tank which rubbed on both sides of a three-foot doorway. The cow's head and the milk sheet agreed to a different story, and I soon had her beheaded. In my battle with European I have never studied bees by head points, especially with the tail point so very detracting. I have noticed, however, that bees that are prone to use their tails freely outside the hive seldom use their heads effectively inside. In other words, whether accidentally or otherwise, characters seem to group together so that where one is found another can be looked for, or so it seems to me. Scientists tell us that bossie cow's dynamo is in her head and that its size and shape determine her digestive and lactate efficiency; and this might also be in line with a bee's resistance to American foulbrood — wherever a bee's dynamo is located.

—o—

Speaking of cows reminds me that there is a fine, up-to-date milk-receiving plant with a railroad spur to it —probably for sale cheap—in Tomah. It occasioned some hot arguments when it was built, because of a thriving cooperative creamery at the other end of town which did not relish helping to donate a $1700 spur to a competitor. I told a bricklayer on the job that when the milk company went broke I would buy the building for a honey house but two companies have been frozen out and I am no closer to acquiring anything that big than I was then. I wonder if there is not a honey bottler or cooperative in hearing that would like to keep my promise for me.

Lynn Reynolds.

A New Frame Device

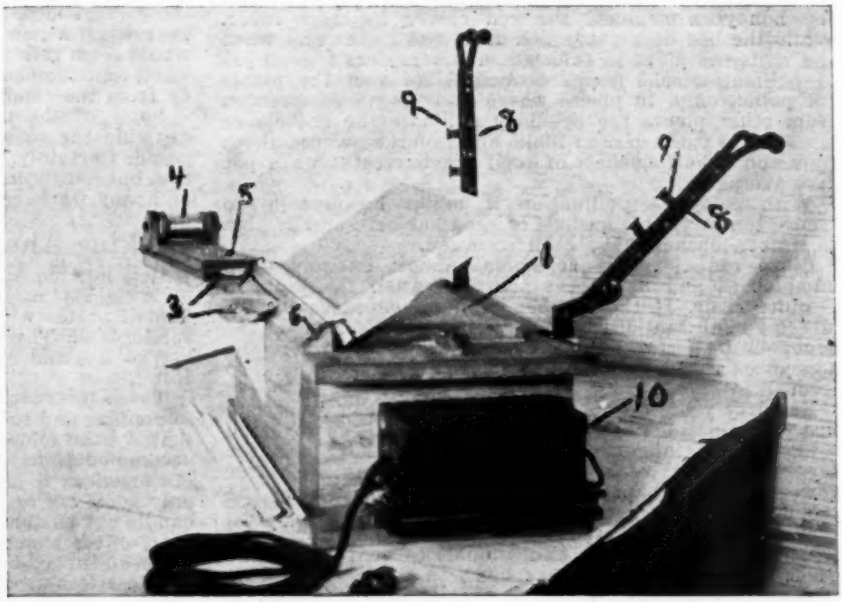
By Calvin D. Crary,

Minnesota.

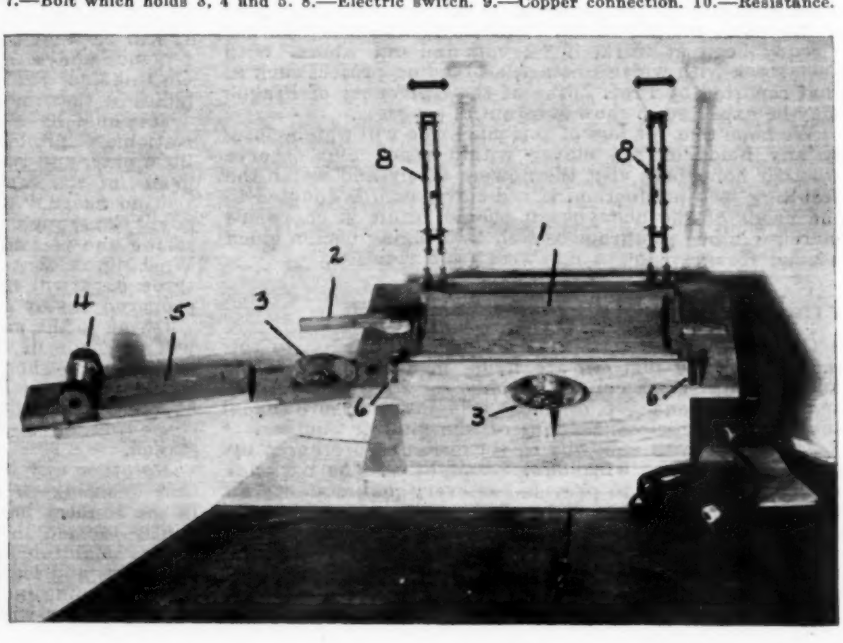
THIS new frame device is a labor and time saver on which one can make a frame square, wire it, nail in the foundation sheet without shatter, and imbed the wires by either electricity or a wire imbedder, all without removing the frame from the device until it is ready for the hive.

I have used the ones on the market and have felt the need of one that would do the work more efficiently. My idea was to save time and labor by making a device that would do all of these operations in one handling of the frame. This I have accomplished in the new frame device. It saves time and labor and does a good job.

It is made of hard wood and there is no shatter or vibration when nail-



1.—A smooth imbedding board, with finger slots on each end. 2.—A lever that straightens the frame and presses the two sides in, which gives the taut condition to the wires. 3.—A tray for nails. 4.—Spool. 5.—Spool carriage. 6.—Spring, to hold the frame down or on a slant, to be convenient when putting in foundation especially in the case of split bottom bars. 7.—Bolt which holds 3, 4 and 5. 8.—Electric switch. 9.—Copper connection. 10.—Resistance.



ing the foundation in place. The clamp arrangement on it squares and straightens the frame and gives a taut condition to the wires. The spool carriage slides away to take up the slack without having to wind up the spool of wire. This spool arrangement can be put on either side, for either right or left-handed people. It has two nail trays for different size nails and there is an opening in the back for the resistance. There are two hinged switches, one on the right side and another on the left, making it available, as with the spool arrangement, for either right or left-handed people. These switches have contacts that can be placed for either two or four wires as desired and when the switch is pulled down or connected it imbeds all of the wires at one time with electricity.

At the University of Minnesota where I am assisting Dr. Mykola Haydak in some of his experimental work, we have two of these new frame devices and like them much better than the old style ones.

—ABJ—

New Bee Pastures

The opening of new roads into the higher elevations of the national forests is opening some promising bee pastures. At elevations of 3500 to 6000 feet in the mountains of southern Oregon and in the Sierras and coast ranges of California, the western edge of Nevada and northern Lower California the Incense Cedar (**Libocedrus**) grows in great abundance.

This tree is host to a scale insect through which it yields large quantities of honeydew. Beekeepers within reach of large stands of this tree report crops of from one hundred to three or four hundred pounds per colony. This interesting information comes to our attention through a visit with Frank E. Todd, of the field station at Davis, California.

Todd describes the honeydew honey as of very heavy body, nongranulating, and of light amber color and indifferent or neutral flavor. While not of high quality, it brings a fair price for certain uses in an eager market.

Incense Cedar is most abundant and largest, according to Sudworth (Forest Trees of the Pacific Slope) on west slope of the Sierras. It is usually found with sugar and yellow pine and with white fir in the lower part of the latter's range.

While the trees are found at ranges up to 8000 feet or more and occasionally as low as 1200 feet, it is between 2500 and 6000 feet that the most promising bee ranges are to be expected. It is very probable that many profitable locations are to be found at these elevations. Since one can secure exclusive rights to a range in the national forests for a rental of ten cents per colony per year it will be well for interested beemen to watch the areas made available by the opening of new roads.

Frank C. Pellett.

Incense cedar twig showing honeydew drops, natural size.

Pollen Substitutes

By Elmer G. Carr,
New Jersey.

In view of the importance which now is being accorded to an abundance of pollen available to bees, not only in the intensive brood rearing season, but also during the winter time, Mr. J. H. Sturdevant's article in February American Bee Journal prompts me to write.

In most parts of New Jersey beehives are now short of pollen. Since brood rearing usually starts in this state around the middle of February, the opportunity for bees to make satisfactory progress in brood rearing is unfavorable unless pollen can be given.

The idea of providing pollen substitutes when the natural source fails is not new. Dadant reports that Hartlib, as early as 1655, noticed that bees would gather flour or meal when pollen was not available. Dr. Miller fed "shorts" and seems to have been satisfied that bees were benefited by such feeding.

Dr. Phillips in "Beekeeping" reports that Parker experimentally fed many substances as pollen substitutes to bees in a greenhouse and "found they could not rear brood to the pupal stage." He concludes "the use of pollen substitutes cannot, therefore, be recommended."

Dadant in commenting on the use of pollen substitutes says: "Some modern experimenters object to flour as a substitute for pollen, asserting that it is indigestible and of no practical use to them. Our experience of over fifty years is not in accord with this criticism."

Recently Dr. Mykola Haydak has, at the University of Minnesota, experimentally fed bees a number of pollen substitutes and claims a degree of success. Some of the substances fed were meat scraps, cottonseed meal, commercial casein, ground dried blood, digested tankage, whole wheat flour, whole oat flour, fish meal, corn flour, pea flour, soy-bean flour and skim milk powder.

From his experiments Dr. Haydak concludes that a mixture of one part milk powder to four parts soybean flour will prove beneficial as a pollen substitute. Dr. Haydak gives cottonseed flour as second choice. The other substances tried he does not recommend.

It seems highly probably, as Mr. Sturdevant observes in his article, that bees would not use a substitute so long as natural pollen could be had, just as they will leave sugar syrup when nectar can be had from the fields.

Mr. Sturdevant mentions the great amount of wear and tear on bees in searching for pollen. No doubt this

(Just turn the page, please!)

is considerable; perhaps more serious still is the condition when, because of lack of pollen, brood rearing ceases entirely, particularly in spring as it did in some parts of New Jersey last year.

Dr. Haydak's experimental feedings were inside the hive, using a mixture of pollen substitute and honey. It may be possible to feed a dry substitute inside the hive, say in an empty super above the brood nest. However, bees may prefer to gather in the open and pack in pollen baskets.

Dr. Miller fed his "shorts" in shallow boxes and Mr. Haydak suggests the advisability of a similar procedure with the mixture of soybean flour and milk powder.

Dr. Miller reported that bees seemed more inclined to work better on a number of boxes rather than on one. They seemed inclined to spread their work in a manner similar to when they are gathering nectar.

———ABJ———

Westerners Win Honey Awards

This clipping, from "The Western Producer" sent by a subscriber, reports the results at the Royal Winter Fair at Toronto. Western Canadians won the first five prizes for extracted honey in a class of 38 entries; the first three awards for granulated honey with twenty-four entries competing; and the first and second in eleven exhibits of beeswax. Here are the prize winners:

Extracted honey: 1, W. B. Dixon, Maple Creek, Sask.; 2, Floradal Apiaries, Souris, Man.; 3, J. Alan Harrison, Winnipeg; 4, C. W. Eckhart, Crescent Lake, Sask.; 5, Henry Maloney, Meadow Lake, Sask.

Granulated honey: 1, Carl Knopf, Gretna, Man.; 2, J. Alan Harrison, Winnipeg; 3, Miss Dossie Cochrane, Hamiota, Man.

Beeswax: 1, Jack Mackison, Hayfield, Man.; 2, Miss Dossie Cochrane, Hamiota, Man.

Saskatchewan, according to the Provincial Department, shows an increase in honey production with 2,583,396 pounds in 1936 as compared with 1,031,971 pounds in 1935. Beekeepers increased from 2,680 to 2,998, the number of colonies from 14,079 to 17,062 while the production per colony was 155.1 pounds for 1936 compared with 74.7 pounds for 1935.

Saskatchewan exhibitors at the Imperial Fruit Show at Liverpool secured major prizes. A. I. Smith, of Regina, won first prize for six jars of granulated honey and was also successful in winning second prize for twelve jars of granulated honey, while I. G. Carr, of Govan, secured second prize for six jars of liquid honey.

Smoking and Smoker Fuels

By H. A. Seabright,

Ohio.

JUST why do we use smoke when handling bees? What does the smoke do to the bees and what would be the result if we had to do without the smoker? How should a smoker be used and what kind of fuel gives the best results?

These are pertinent questions in which all who handle bees are concerned. We all have our ideas on this valuable piece of equipment and how it should be used. While we differ materially on many of the problems connected with beekeeping, these differences bind us together more than would be the case if we understood all about bees.

The most pronounced effect of smoke on bees is to intimidate them or make them less assertive in their natural mode of defense. This facilitates the various operations performed in managing the individual colonies. While some strains of bees can be handled with less smoke than others, a certain amount of smoke is needed in the economical handling of nearly all bees. To do without the smoker entirely would slow up nearly all operations in the handling of bees. In the case of the larger honey producers, speed is a very important consideration.

It is well known that bees gather and store honey, raise brood and build comb in a very orderly fashion according to a systematic organization of classes of workers. Anything which disrupts this organization results in a slowing down of these functions. It is therefore advisable to reduce all hive manipulations to the minimum as they tend to disorganize the colony with attendant reduction of honey gathering.

Since the bees become more disorganized when they are irritated, it is apparent that the quieting influence of smoke has a direct effect on honey production.

Uniting bees from different colonies, introducing queens and many other operations can be accomplished more successfully with the judicious use of smoke. We know that odor is quite a factor in the family life of the honeybee and the smoker can be used to good advantage as a result.

Many beekeepers obtain a large measure of satisfaction from the keeping of a few colonies of bees. To them, the smoker enhances the pleasure and satisfaction of husbanding one of nature's most useful insects.

The present day smoker is a highly perfected piece of apparatus. It will produce smoke from practically everything which is combustible. The main difference between a small stove and a smoker is in the air supplied to the fuel. A stove usually gets an excess of air while in a smoker the air supply is deficient. Smoker combustion is therefore incomplete as compared to that of heating devices such as stoves and furnaces. If we give a smoker too much air, we get too much heat, less smoke and the fuel is consumed too rapidly. On the other hand, if the air supply to the smoker is reduced, the combustion of the fuel is likewise reduced and more smoke is given off.

While the smoker is fairly well standardized, smoker fuels are not. There is a great difference of opinion on this subject. All fuels do not work alike in a smoker and results vary accordingly. There is quite a knack in keeping a smoker functioning properly when needed, and the character of the fuel plays an important part.

When we stop to consider that all suitable smoker fuels have two main combustible constituents, we get a little better understanding of what actually goes on inside the smoker when smoke is being produced normally. The major part of these fuels is carbon and this is the heat producing constituent of the fuel. The other part contains volatile matter which is driven off in the form of vapor when the fuel is subjected to heat. If the air supply to the smoker were sufficient, most of this vapor would be burned and little smoke produced. Since the air supply is usually deficient, this vapor goes off unburned and makes up the major part of the smoke. The carbon of the fuel burns with the formation of carbon dioxide, which is a colorless and odorless gas. It is the heat from the burning carbon which drives off the volatile part of the fuel that makes the smoke. This explains the reason why charcoal, which is nearly all carbon, does not make a good smoker fuel.

Now why does smoke cause bees to act more gently? If more were known about this question, we could

act more wisely. One of the constituents of smoke is carbon monoxide gas and we know that this gas causes coagulation of the blood of humans and if continued long enough results in death. It is quite likely that this gas has a retarding influence on the circulatory system of the bees, resulting in less action or quieter bees.

On the other hand, the odor of smoke is no doubt objectionable to bees as it is to all animals. The smoke may have an irritating effect on their eyes and respiratory organs. Two opposite influences are thus brought to bear — sedative and irritant. Anything tending to enhance the former effect and minimize the irritating effect would be a step in the right direction. We know that certain fuels give a more pungent smoke than others and are not as effective in quieting the bees. The fact that certain fuels are cheap and easily obtained, is not the only consideration if we want the best results.

Controlling the combustion of a given fuel in a smoker presents quite a problem in many cases. Some fuels burn entirely too freely and do not last very long without replenishing. They give more smoke than is needed and are burned out before we realize what has happened. Others will not burn at all unless mixed with a more combustible material. A great deal of time and effort is spent in keeping the smoker functioning properly with many fuels. Finding the smoker "out" when you want to use it in a hurry, is trying indeed. Some fuels give off too much heat; sparks and small pieces of the fuel are blown out of the smoker. Some are high in resin, creosote and phenol, which make the smoke more irritating.

Since the combustion in a smoker depends upon the air supply, it is most essential that we give some attention to the method of handling the smoker. One reason why this is a problem is due to the fact that the smoker is normally used in an erratic manner. We puff the bellows a few times and then set the smoker down until we want to use it again. While we are puffing it, the fuel gets a blast of cold air which either blows the fire out, if small, or speeds up the combustion if there is enough burning fuel in the smoker. When we set the smoker down, the fuel gets much less air and, if left standing long enough, may go out. The lighted smoker after becoming warmed up has enough natural draft to keep most fuels burning when the smoker is in an upright position. Laying the smoker on its side or reducing the size of the air supply hole in the base of the smoker will further limit the air supply to the fuel and make the fuel last longer. Every fuel requires a certain amount of trial in order to learn how to handle it to best advantage. The more uniform the fuel is, the less difficulty will be experienced in its use.

Many beekeepers use entirely too much smoke while handling their bees. They seem to have the attitude that the smoke will correct their wrong doing. Because bees can endure excessive amounts of smoke without apparent physical harm, does not justify our taking advantage of them. Certain odors of very pungent smoke, carbolic acid, and other chemicals are extremely painful and agonizing to bees.

The honeybee has a highly developed nervous system which is very sensative to all odors. The sense of touch is also highly developed. These qualities are manifest more in some colonies than in others and the individual bees of a given colony are not all exactly alike temperamentally. There are always a few bees more cross than the others. So it behooves us to consider the individual bee rather than the group alone. Squeezing one bee can start a lot of trouble.

Avoid the first sting, if possible, as the resulting odor signifies the presence of an enemy to the bees and is a general signal for attack. From the time we puff a little smoke in the entrance and lift the cover, it pays to go gently. Quick movements, jarring, squeezing, rubbing and hurrying do not fit in with the bee's liking. Bees usually quiet down if treated gently after the hive is first opened, so that a little extra care in the beginning of the hive operations, saves time in the end.

Of course some bees are more difficult to handle than others and it pays to know your bees and handle them accordingly. A little smoke at the right time, in the right way, accomplishes much. A volume of smoke in the wrong way does unwarranted harm. Bees have many of the characteristics of humans. How would you like to be treated if you were a bee?

—ABJ—

Will Future Beekeepers Benefit from CCC Tree Planting?

Twelve tons of tree seed, to produce approximately 150,000,000 seedling trees, will be planted this year in nurseries operated by the Indiana camps of the Civilian Conservation Corps. Last year more than thirty-six million black locust seedlings were grown in Indiana by the CCC, sixteen million of them being sent to other states for use in erosion plantings. Besides black locust, which represents about one-third of the plantings, there are conifers, oak, walnut, persimmon and other species native to Indiana.

How much honey will these trees produce is asked by Alfred H. Pering of Florida, to whom we are indebted for the above information.

Colusa County Leads the Way

By Thos. C. Burleson,
President California State Beekeepers Association.

Honey producers in areas of the United States where airplane dusting of poison material is practiced will be interested to learn that the Colusa County Board of Supervisors on February 16, 1937, voted unanimously to instruct our district attorney to draft an ordinance to prohibit airplane dusting of orchards and farms with poison substances (but not to prohibit the use of non-poison material such as sulphur or any liquid spray).

The action followed the presentation of evidence of the extent of the drifting of poison dust and the damages resulting therefrom. Mr. Gene Phelps, dairyman and beekeeper, acted as chairman of the petitioners and was ably seconded by Mr. Ed. Heitman, another leading dairyman of this section. Mr. Phelps told of the dangers of milk being contaminated and humans poisoned by using milk from animals that graze on pastures covered with calcium arsenate dust.

Mr. Geo. J. Triphon, one of the largest commercial beekeepers in California, told how he lost 380 colonies of bees, valued at $15 to $25 per colony. T. C. Burleson said he had an investment of $30,000 here and that if a protective ordinance is not enacted he will have to move his business elsewhere. Mr. Cary W. Hartman, Secretary of the California State Beekeepers Association for the past fourteen years, spoke in behalf of the beekeeping industry of California in general, and Attorney Leroy Goodrich, of Oakland, California, and legal advisor for the State Beekeepers Association, presented evidence gathered over a long period in regard to damage by airplane dusting.

The action of the Colusa County Board of Supervisors is to be highly commended by all beekeepers and livestock men alike and should set a splendid example of one way to combat this ever increasing menace of the uncontrolled application of poison dust.

This leads the way for state legislation in California and other states to stop once and for all this abuse of human rights. If it is not stopped soon, beekeeping in certain areas of the United States is doomed.

The growers can use airplanes to apply non-poisonous materials, such as sulphur, or the more efficient liquid sprays without causing serious injury to bees or to livestock. The beekeepers and livestock men recognize the right of the grower to apply

(Just turn the page, please!)

any poisons they deem necessary in the control of agricultural pests just so long as they keep the poisons on the fields treated. However, when the poisons are broadcast over vast areas beyond the fields treated, the drifting poisons constitute a danger of major importance.

The beekeeping industry of California is valued at several million dollars and is considered indispensable to various types of fruit, vegetable, and seed production because of the activities of the bees as pollenizers.

The way is now set for other sections to prevent unnecessary dangers to human health and irreparable losses to beekeeping and to livestock by prohibiting the uncontrolled application of poisons.

———ABJ———

Choose Bees By Traits, Not By Breed

I note the December editorial about the different traits of Caucasion bees. Five years ago I bought ten Caucasian queens whose bees were better winterers, longer lived, built up quicker in spring and produced larger colonies than the Italians. They, therefore, produced more honey. They did not propolize the hive more than the Italians. They were nicer to handle and were less inclined to rob. During the time I had them, I had over fifty colonies with foulbrood, but only two were Caucasian, and these two were badly mixed with the Italians. All the Caucasians and Italians were placed under identical conditions.

I had convinced myself that the Caucasians were a superior bee. I purchased three dozen queens from a different breeder, and imagine my surprise on examining the hives in September to find the deep entrance over half blocked with propolis. The brood space was also constricted so that smaller colonies were obtained than with the Italians. They were more restless and more inclined to sting.

So, I have come to the conclusion that we have all kinds of Caucasians just as we have all kinds of Italians, gentle, vicious, good winterers, bad winterers, good honey gatherers, poor honey gatherers, quiet, racy, clean and dirty, swarming, non-swarming, prolific and non-prolific.

Perhaps we should choose our bees as a good dog trainer chooses his dogs, not by breed but by individual traits.

Joe Marty,
Oregon.

———ABJ———

Correction

A belated correction comes from T. B. Stockwell whose "Record of a Scale Hive in the Spring of 1935" appeared on page 393 of American Bee Journal for August, 1936. This title should read: "Record of a Scale Hive in the Spring of 1919."

Observations of a Beginner

By Grant D. Morse,

New York.

A stranger in passing my house happened to see me with my bee veil on.

He looked at me with considerable curiosity.

"What are you doing?" he asked.

"Working with the bees," I answered, "would you like to come in and see them at work?"

"No, no," he exclaimed, "not me! They sting."

The fear of the average man and woman of honeybees is surprising. I feel, too, after careful consideration, that it is unwarranted. As a beekeeper, think over the circumstances under which you usually get stung by bees. Isn't it almost invariably when you either are standing in front of a hive in the line of flight, or when you have the hive open. The bees' anger at these times is explainable; it is even excusable.

But the person who is not a beekeeper seldom has any occasion to incur the wrath of bees by either of these two offenses.

Personally I have never seen a person stung by a honeybee other than under the two circumstances mentioned above. Other people have, of course.

I have observed, from many experiences, that bees trapped in a building—even the honey house, do not sting. A bee caught in an automobile does not sting. Bees at work, either on a flower, or in flying from flower to flower can scarcely be made to sting a person unless enclosed in the hand, or pressed roughly by some part of the body.

Patient and persistent propaganda to teach the public these facts would doubtless remove much of the unwarranted, ill-considered, thoughtless fear it has of the honeybee and her stinger.

It is almost funny, though, to ote the pride so many beekeepers have in their professed ability either to avoid stings or else to endure them without pain.

I will cite just one example: Some time ago I visited a beekeeper who operates on a large scale. He was at work in a bee yard with his force of men. After looking on for a long time, I volunteered to hold a frame, heavy with bees, that a helper seemed to find no place for, and which he was not ready to return to the hive.

As I reached carefully for the frame, two bees darted for my hand and stung me severely. Largely as a consequence of this, I dropped the frame, bees and all. Fortunately no damage was done, but the beekeeper who, just at that moment came up to watch me and his helper, saw me drop the frame. He grunted in disgust and turned away.

Are Crowded Bees Ugly Bee?

Upon return from a vacation recently, I found several hives that should have had supers on some weeks earlier. The buckwheat flow had evidently enabled the bees suddenly to fill their hives with honey. As a consequence the queen had been so crowded that egg laying had been almost entirely shut off. In these cases I found the bees very cantankerous. One hive, particularly, drove me away each time I came back, and I received several stings even through my gloves and through my white shirt. Plenty of smoke had been used, including an initial puff or two at the entrance when I began. Not only did the bees sting me, but a dozen or more would persistently follow me each time I came back to do the things necessary to get the super on and the hive closed.

It made me wonder if, perhaps, bees lacking room for their stores do not become cross.

Manipulation of the Smoker.

This summer I attended a beekeepers' meeting at which the speaker as part of his program, introduced a queen to a colony. It was one of those days when the bees were cross. The speaker showed evident distrust of the temper of the bees, but his pride would not let him don the veil. I admired his courage, but my respect for him and his ability in the bee business would have been lessened not one whit if he had veiled his head.

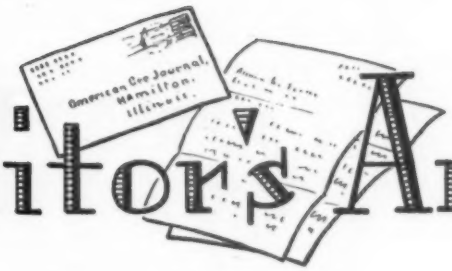
He was assisted in his demonstration by a volunteer from the crowd, a state bee inspector, who manipulated the smoker for the speaker. I heard two or three favorable criticisms of the way the bee inspector handled the smoker. He, too, wore no veil, but none of us seemed to think of him as unveiled. He was so calm, and methodical it didn't occur to me at least that he would even get stung.

I noted particularly how sparing he was of the use of smoke. The smoker was constantly there, its spout close to the demonstrator's hands, but only a small quantity was given the bees at once.

I think most of us who have work-

(Please turn to page 191)

The Editor's Answers



Feeding Package Bees

1. How much sugar will a three-pound package of bees require if they are started on foundation over an eight weeks period, which should bring them up to the honeyflow?

2. Will corn sugar give them the necessary food? Will a small amount of cornstarch, such as is found in powdered sugar, in the sugar syrup do any harm?

KANSAS.

Answer.—1. We usually figure that a three-pound package of bees requires a 10-pound pail of sugar syrup every week to build them up without any outside honeyflow. During an eight weeks period, therefore, you might use as much as 80 pounds of syrup to get the bees up if you start them on full sheets of foundation without any other source of food.

2. No, corn sugar is not desirable. Cornstarch in powdered sugar is even worse. The syrup made from powdered sugar containing cornstarch will give you a lot of "pudding." It comes out as a paste and is fed with difficulty.

———ABJ———

Marking Queen Bees

Can you tell me what kind of material is used in marking the thorax of the queen bee so that she may be readily found in populous colonies?

GEORGIA.

Answer.—We use ordinary Duco household enamel. The best adhering color is red. A small can of this will mark many queens.

The paint should be thoroughly mixed. Grasp the queen by the wings with your right thumb and index finger, and let her legs lie over the nail of your left hand index finger, grasping the legs on either side with the thumb or second finger. Release the wings, dip a camel's hair brush into the paint, touch the top of the thorax, hold the queen until the color is partially dry, then release her. If this is done carefully, you will have an excellent mark.

———ABJ———

Curing Honey

I would appreciate information about curing honey. How long does it take the average honey to cure and in how many ways may it be cured? I do not understand this subject.

QUEBEC.

Answer.—In the early days of beekeeping when the honey extractor was first used, honey was removed from the combs as rapidly as combs were filled, and before the honey was sealed. The honey was watery, thin, green and really not yet ripened honey. It was not yet cured honey. This honey, therefore, soured quickly, was tart in taste and not a good material for consumption.

Now, honey is not taken from the hive until the bees have sealed and capped over with wax cappings, at least one-half to two-thirds of the combs in the super. It is then considered to be thick and ripe enough to be extracted and placed in containers for the market without any further attempt to process it in order to make it more salable.

There is no substitute for ripened honey in the hive and there is no necessary manipulation of the honey on the part of the beekeepers in this respect.

Feeding Slightly Burned Honey

I have some honey melted from cappings that was left on the stove and was burned a little. Can I feed it to my bees in the spring for stimulation?

BRITISH COLUMBIA.

Answer.—You can feed the burnt honey in the spring successfully when the bees can fly freely.

———ABJ———

Honey Above the Brood

If there is a rim of honey above the brood in the brood chamber, is that honey apt to deter the bees from going up into the supers when the honeyflow begins? If this is true, would a shallow food chamber help to solve the problem?

ALABAMA.

Answer.—We did not know anyone would claim a rim of honey one or two inches deep would be a barrier to keep the bees from going from their brood chamber into a super during a honeyflow.

Where a shallow food chamber is used or where a double brood chamber is used, the space between the two hive bodies or between the hive body and the super is much more of a barrier than any rim of honey could possibly be. Bees and queens will move much more readily over a strip of honey than they will over an open space, especially where there is a top bar and bottom bar of wood to intervene.

———ABJ———

Honey Plant Seed

Where may I get seeds or plants of the coral vine and the cajeput tree?

ILLINOIS.

Answer.—The coral vine seed may be obtained from the Vaughn Seed Store at Chicago. The cajeput tree grows only in the extreme southern part of Florida and will not stand frost. I do not know where you can get the seed. You might inquire of the Florida Department of Agriculture at Tallahassee.

———ABJ———

To Prevent Crystallization

Do you know if you have to put anything in honey to keep it from crystallizing or getting sugary?

ILLINOIS.

Answer.—There is nothing that may be placed in honey to prevent its crystallization without declaration on the label. One half of one per cent edible gelatin added to honey when hot will prevent crystallization indefinitely, but it must be declared on the label.

———ABJ———

The Effect of Galvanized Metal on Honey

Will honey in galvanized tanks with usual lead solder be injured or discolored?

OHIO.

Answer by R. E. Lothrop, Associate Chemist, U. S. Department of Agriculture.—There is no evidence as far as I know that aluminum is dissolved by honey. A galvanized iron surface apparently is not attacked by honey. However, if the surface is damaged so that the iron is exposed, the metal will be attacked.

The use of glass-lined tanks, of course, assures freedom from metal contamination. Galvanized tanks that are properly cared for apparently give entirely satisfactory results, and involve a considerably smaller investment.

———ABJ———

Inducing Foundation Drawing

Can I force my bees or the queen by manipulating with the foundation so that the drawn foundation is at the side and the undrawn in the center?

BRITISH COLUMBIA.

Answer.—Do not divide your brood nest when you move the foundation as you plan. Put your foundation between the combs at the side without brood, and the first combs of brood so that there will be drawn comb, foundation and then brood coming in from either side. Do not break up your brood nest.

———ABJ———

Cyanide for Bees

I have read about using Cyanide. Does this come in powder form or liquid? Can it be bought through beekeeping stores? I have tried drug stores, but none of them handle it. I have several hives that cannot be handled without stinging, so I want to dispose of the cross bees and get gentler ones.

WEST VIRGINIA.

Answer.—Calcium Cyanide comes in either granular or powder form, and it must be obtained from drug stores or may be purchased from stores handling greenhouse or florist's equipment. Ask for calcium cyanide.

———ABJ———

Heating Honey in Copper

In heating honey, is it all right to heat it in a copper container?

TEXAS.

Answer.—Yes. We would not recommend leaving it there for any length of time.

———ABJ———

Supering

Where is the best place for the empty super after the third in extracted honey production?

BRITISH COLUMBIA.

Answer.—Right on top if it is drawn. If it is foundation, next to the brood nest.

———ABJ———

Lespedeza

My bees in Jefferson County, Tennessee have made more honey the past two summers from Lespedeza than any other honey plant for the same length of time. It lasts only about three weeks and during that time they store more honey than any other like period.

I have a few bees in another county that do not make the progress from Lespedeza that they do at my home.

W. E. Watson.

For Over 50 Years

BEEKEEPERS in many lands have been pleased with this most important tool in Beekeeping. Your Bingham Smoker is offered for sale by numerous dealers.

INSIST ON THE BEST

Manufacturers of a complete line of Honey Extractors, one for every requirement. Send for printed matter.

A. G. WOODMAN CO.

GRAND RAPIDS, MICH.

Italian - Caucasian

PACKAGE BEES & QUEENS for 1937

2-Lb. Packages with Queen	$2.45
3-Lb. Packages with Queen	3.15
Untested Queens	.75

Each additional pound bees add 70c.
Queenless packages deduct price of queen.

ONE COMB NUCLEI

2 Pounds with Queen	$2.45
3 Pounds with Queen	3.15

Each additional comb add 40c.

HONEY BEE APIARIES
E. W. Peterson, Mgr. Sandwich, Ill.

JOSEPH DUSEK COMPANY
726 WEST RANDOLPH STREET, CHICAGO.

HONEY
ALL GRADES
COMB AND EXTRACTED
Any quantity.
(*Reference, First National Bank*)

GET RUNNING'S BEES
And Get Honey—They Satisfy.

PACKAGES AND QUEENS
The kind WE use in our extensive Michigan Apiaries, where WE produce honey by the carload.

ALL ITALIAN STOCK
Service guaranteed. Stock bred for honey-getting and gentleness. Apiaries accredited and certified by Alabama Department of Agriculture. Get our free circular. YOU can now get RUNNING'S Bees and Queens as cheap as others.

All bees and queens shipped from our Alabama Apiaries. 2-lb. pkg. and queen, $2.45; 3-lb. pkg. and queen, $3.15. Untested Italian queens, 75c. No discounts.

DAVID RUNNING APIARIES
Sumterville, Alabama or Filion, Michigan

By G. H. Cale

IN the February issue of Gleanings, L. W. Lange, of Richmond, Texas, tells about an efficient method of selling honey which strikes us as just right. It is easy to say we have used the method too, but anyway, we have to say it. It is simply this: Small initial orders, repeat calls, until the stock maintained on a cash basis by the grocer is kept in proper physical condition with sales plans to help move the honey. It is common grocery merchandising applied to honey and it works.

It is a job entirely apart from production, however, and must be studied and followed up as a separate business enterprise. It cannot be understood with the same brain cells it takes to understand apiary management.

—o—

Many beekeepers have successfully helped to build or improve their apiary location, but so far, we do not know of any who have decided to study the honey plant resources of their particular region with the idea of distributing seed of the main honeyflow plants in planned manner.

Why not do so? Use a map showing roads two miles in every direction from each location and secure a supply of the seeds of the main honey plants to scatter along roadsides, wayplaces and wherever they will be useful without encroaching on the property rights of others. In this way, mixtures of sweet clover seed or other farm crops and honey plants may be distributed. It might also be possible to include inoffensive natural plant seeds in a such a program.

—o—

In "Wisconsin Beekeeping," for February, Leonard Otto, Morris Junction, tells about keeping 400 colonies of bees in one bee yard. We also have a picture from B. I. Evans, of Windom, Minnesota, showing about 350 colonies in one yard for comb honey production. This brings up the old subject of overstocking. It also is very important in cost of production.

If a region will support 100 or more colonies at one place without overstocking, why scatter the same number of bees in two locations and increase the mileage and labor of taking care of them? Ed. Brown of Sioux City, tells of the successful operation of 300 colony yards for extracted honey production in a region where the common belief is that 100 colonies is enough for one place. His records, he says, show no difference in the per colony annual yield of the 300 colony yards compared with 100 colony yards.

After all, that is the answer to the question. The only difference might be in the build-up period when the minor sources of nectar and pollen for brood rearing would not be enough to go around.

—o—

A. H. Gates, of Garfield, Washington, calls me on my statement in "All Around the Bee Yard" where I say that Brown of Illinois first started the use of the top entrance. He says "You do not go back far enough. Mr. Langstroth used the top entrance."

You are right Mr. Gates, and I published a statement from you some time ago showing the picture of Mr. Langstroth's top entrance, so I stand corrected. No new thing exists only in one mind and any consideration of an important human factor comes in waves of interest which may be expressed at various times in the history of its development.

Just now, the interest in the top entrance is great. We have used several hundred this year and find them, so far, quite satisfactory. We would like to know how well they will do in a winter like 1936. This winter, 1937, has been mild enough so that winter losses will be few. In 1936, the total net loss was 30 per cent. In 1937, the total net loss will probably be 10 per cent, including drone layers, queenless, winter killed, unites and everything—quite a difference.

—o—

Two Queens in One Hive.

In September "Bees and Honey," is described the Bell Duo or two queen beehive which is constructed with a center compartment, queen excluder division boards, and two queenright compartments at either end in a long hive on which supers are placed in the middle. In speaking of it, Bell says: "I call it my hive because it was from my brain cells, from start to finish. I have used information from many authorities to accomplish my end. I give them full credit herewith." And then he continues to tell how he evolved the hive.

It is strange, but there is nothing new under the sun. Otto Harpole, of Indiana, has used just such a hive

for years and I suppose Otto would be offended if it were to be claimed that he was not the inventor of it. He has displayed it as a small model, at numerous meetings, but nobody has paid any attention to Otto. Yet, here is a distinctly two queen hive just like the Duo hive of Mr. Bell.

The whole idea of a two queen hive is intensely interesting. There may be something to it. I have been criticized for this remark, but I will make it again: If two queens in one hive will give more than twice the crop of the same two queens in two separate hives, I will be for it. Of course, two queens maintained in one hive will only require one beehive, while two queens in two hives require two beehives; as simple as the multiplication table. On the other hand, manipulation might soon overcome the difference in the cost of equipment.

I have never been opposed to the two queen idea. If production is boosted materially and cost is reduced equivalently, let's go ahead and try it and let everybody tell their results. There is no patent on this idea.

— o —

Pollen Reserve

This is much to-do over our multicolored flower dust. Apparently bees must have it in quantities to rear brood in quantities. According to Dr. Farrar, of Laramie, and Frank Todd, of the Pacific Coast Field Station, bees deficient in winter pollen are unable to build up rapidly in the spring. Apparently, bees with an abundant store of winter pollen in the hive replace their population by winter brood rearing, so the old idea that winter brood rearing is a detriment, may turn out, after all, to be a mistake. Winter brood rearing may be a blessing. Obviously, a replaced population, old bees for young, which results from winter brood rearing will give a magnificent start to any colony in the early warm days of spring. But this replacement of bees and rearing of brood depends upon the pollen reserve. So, maybe we will have traffic in pollen one of these days.

We were surprised, on examining two or three colonies in our fall flower bedecked country, to find that they were short of the reserve indicated by Todd and Farrar. It may explain some of our weak colonies last spring after a severe winter and a cool fall. Also it may explain why some beekeepers in a surplus honey location do not get a crop. Some plants produce pollen in abundance and others do not. Bees store that which the field provides and consequently, migratory beekeeping may have a place in our program hitherto unsuspected.

honey jars

"Exceline Jars"... range in size from ½ pound to 4 pounds.

"Tall Cylinder Jars"... range in size from 1¾ oz. (individual service) to 3 pounds.

"Skyline Jars"... range in size from ½ pound to 4 pounds.

"Beehive Jars"... range in size from ½ pound to 2 pounds.

Hazel-Atlas offers a wide list of containers for the honey packer — the Tall Cylinder, the Skyline, the Beehive — and now the new Exceline Jars. All easily packed and labeled. Write for free samples.

HAZEL-ATLAS GLASS CO.

WHEELING, W. VA.

INSURE YOUR CROP

Why Be Disappointed?

Head Your Colonies With

NATIONS

3-BANDED ITALIAN QUEENS

The Best Crop Insurance Known

Remember: "Nations' Queens Are Supreme."

A. W. NATIONS, DONNA, TEXAS

Breeder of Supreme Italian Queens–They Rule

Also Packages and Nuclei. Standard Prices.

CAUCASIANS

Extra gentle, prolific, long tongue, little swarming, dependable workers, 10% to 40% ahead of Italians.

CARNIOLANS

Prolific at all times, very gentle, build up fine during the spring, build beautifully white combs, most excellent workers. Many customers report little or no winter losses the past winter.

Prices: Both Races

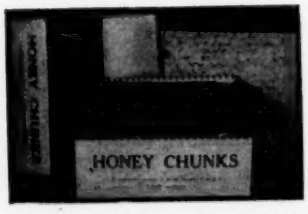
2-lb. package with queen	$2.50 each
3-lb. package with queen	3.25 each
8-fr. colony, test. (1936 queen)	8.00 each
Breeding queen (1936 reared)	5.00 each

Packages and colonies ready May 5th on. Breeding queens in April. I am more convenient for eastern states and southern Canada. Less express charges, less net cost, less time in transit, arrive better condition.

Albert G. Hann, Glen Gardner, New Jersey.

AMERICAN RABBIT JOURNAL
. . Shows the Way to Success
Gives the latest news and views of the rabbit world—an illustrated monthly magazine of general and educational features. One year, $1.00; three years, $2.00; sample, 15c.
AMERICAN RABBIT JOURNAL
Dept. S. Warrenton, Missouri

When you pay for
GOOD BEES AND QUEENS
Be sure you get them—order Forehand's. How many times have you been disappointed in stock and service? And just think for the same price you could have had Forehand's!
Early blooming plants enable us to rear queens from natural sources.
2-lb. pkg. bees with unt. queen, $2.45
3-lb. pkg. bees with unt. queen, 3.15
Untested queens ..... .75
N. FOREHAND :: DE LAND, FLORIDA

Hilbert Method CUT COMB HONEY


Write for our catalog which will include free, full information on Cut Comb Honey Hunks and Chunks.
James E. Hilbert, Traverse City, Mich.

Modified Dadant Hives
for Canadian Beekeepers
The large hive was well liked in the big-crop districts last year.
Canadian Beekeepers
order from
S. P. HODGSON & SONS
NEW WESTMINSTER
BRITISH COLUMBIA

FOR SALE
Pure Italian
Queens and Bees
Nothing but the best Bright Yellow and Three-Banded Queens, 75c each.
1-lb. Bees with Young Queen $1.75
2-lbs. Bees with Young Queen 2.45
3-lbs. Bees with Young Queen 3.15
You send for them—they go.
GRAYDON BROS.
Route 2 GREENVILLE, ALA.

Howard County (Indiana) Meeting Held.

J. E. BROWN

THE Howard County beekeepers winter session was held February 12 at the Y. M. C. A., Kokomo. The principal speakers were J. E. Starkey, of Indianapolis and Gaild Hodson, Amboy.

Plans were made for summer inspections, field meetings, tours and demonstrations. Bee management with relation to American foulbrood control was discussed, with emphasis on the necessity for thorough inspection. Attention was called to the fact that foulbrood often appears where least expected, that it is often not discovered until it has made considerable headway.

The clover this year looks good and it was reported that there will be a demand for bees this spring. Honey is almost all sold. A few beekeepers have bought honey in order to care for their customers.

John E. Brown,
President.

—o—

Raising Funds for Inspection

Some twenty-five of the leading Colorado beekeepers attended a called meeting at Denver late in December, to discuss the problem of funds for foulbrood inspection. The state budget which had been prepared for presentation at the next assembly of the Colorado legislature contained no appropriation for inspection purposes.

The meeting extended through an entire day, and ended with the election of an executive committee of three, which consisted of Frank Belt, of La Jara; John Holzberlein, of Grand Junction; and L. R. Rice, of Greeley. R. G. Richmond, head of the state division of apiculture, acted in an advisory capacity throughout the meetings and has the privilege of calling the committee whenever he desires aid.

It was decided to urge the legislature to provide for inspection funds through the levying of a tax of $2.50 on each beekeeper, regardless of the number of colonies he had, and then to make a general appropriation of an equal amount of money. It was estimated that the tax on beekeepers would in itself raise at least $2,000.

On the request of Mr. Richmond, the above committee was made permanent. "Similar permanent committees have been elected in Colorado by the fruit growers, by the dairymen, and various other groups," says Mr. Richmond. "These committees have proved of great value in helping state officers reach decisions on various involved problems."

John Regan,
Colorado.

—o—

Massachusetts Asks Bigger Disease Appropriation.

Massachusetts beekeepers are asking of their Legislature an additional appropriation this year for disease inspection, advancing the sum from a former $2000 to $5000.

Whether these folks get their appropriation or not, they have approached it in the right manner. The February 13 issue of the New England Homestead contains an article giving data on bees in Massachusetts, together with their benefits and the damages caused by disease infection. The article is written by John Van de Poele, Apiary Inspector for Massachusetts and was commented on in the New England Homestead by the editor of that magazine.

Such favorable comments cannot but help have some influence on the ultimate decision of the Massachusetts Legislature.

Not only was the benefit of bees stressed from the standpoint of honey produced, but also more particularly on account of the desirable value for pollination purposes. In this way, not only beekeepers, but fruit growers

will be united in protecting and defending the honeybee.

The Legislatures meet in many states during 1937 and it is to be hoped that appropriations already existing will not be cut and that states where appropriations are now inadequate, may be increased by some organized campaign, similar to that put on by the beekeepers in Massachusetts and their inspectors.

—o—

Honey Banquet at Michigan Meeting.

Eighty-three members of the Michigan State Beekeepers Association attended the winter meeting and banquet at Lansing, February 3 and 4. The banquet was prepared by the Hunt Food Shop, of Lansing, longtime honey boosters. The menu was as follows: Honey sweetened grapefruit, Jello combination salad with honey dressing, honey baked ham, honeyed sweet potatoes, hot biscuits with comb honey, nut cake with honey icing, honey ice cream, coffee.

The banquet was excellent in both quality and quantity of food offered. No one could have put on a better meal than this.

Mrs. Arthur Blakley,
President, Ladies' Auxiliary Wayne County Beekeepers.

—o—

Georgia Beekeepers Organize

In January the Georgia beekeepers put on a big fight all over the state, among the political leaders, finally storming the Capitol, in behalf of an appropriation for bee disease inspection. We succeeded in getting $6000 for the first six months, with an understanding that, if a good showing is made, we shall have the same amount for the next six months. A. V. Dowling, Valdosta, and V. S. Brown, Baxley, were appointed bee disease inspectors. Naturally, we feel as though a great victory has been won and every beekeeper has renewed energy.

On February 13 the honey producers held a meeting at Wilder's place for the purpose of organizing an association for honey sales promotion. The first thing we decided upon was to affiliate with the American Honey Institute. In order to get recognition, we sent along with the letter the amount of $21, which was contributed by the members.

This is the first time the Georgia beekeepers have really made up their minds to do something to help advertise honey. Those out of the state who participated were: Geo. W. Bray, Catskill, N. Y.; A. D. Hiett, Lynchburg, Va.; and E. L. (Ned) Prevost, Clemson College, S. C.

It is not generally known that the state of Georgia is not only rich in sources of honey but in varieties as well. Gall berry, white tupelo gum, black gum, white holly, tulip poplar, sourwood, and Mexican clover give adundance of fine table honeys which the public certainly needs to know

PACKAGE BEES ~ QUEENS

The shipping rush is on. We offer

FINEST QUALITY - FULL WEIGHT
FAST, SAFE SERVICE

What more can one ask? Give us a chance to serve you and you'll come back to us next season.

2-lb. package Italian Bees with Queen, each	$2.45
3-lb. package Italian Bees with Queen, each	3.15
Untested Queens, any number, each	.75
Tested Queens, any number, each	1.50

15% discount to dealers.

SUNNY SOUTH APIARIES
LE COMPTE, LOUISIANA

WRITE FOR FREE BOOK

On the Great Northwest. Thousands of acres of sweet clover and other honey plants that give honey of high yield and fine quality. Favorable localities—Red River Valley, in Minnesota and North Dakota; Milk River Valley; Lower Yellowstone Valley; Valier Project; Kootenay Valley, in Montana and Idaho; and the Pacific Coast Region, in Oregon and Washington.

Beekeepers in this country are increasing their holdings and new beekeepers are establishing themselves along the Great Northern Railway in these states. Diversified farming and live stock are similarly favored by low cost production.

Write for Free Booklet on beekeeping and farming opportunities, including Low Homeseekers' Round Trip Excursion Rates.

E. C. LEEDY
DEPT. J., GREAT NORTHERN RAILWAY ST. PAUL, MINNESOTA

Read What Others Are Doing

2 Years $1.50

1 YEAR, $1.00; 3 YEARS, $2.00
(U. S. A. and Canada.)

FOREIGN 25c EXTRA FOR POSTAGE PER YEAR.

SPECIAL
GLEANINGS IN BEE CULTURE
For 6 Months
STARTING RIGHT WITH BEES
96 Page Book, Illustrated.
BOTH FOR 75 CENTS

The A. I. Root Co., Medina, O.

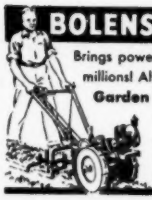
Gleanings in Bee Culture—1 Year
American Bee Journal—1 Year
$1.60 In U. S. A.

To assure yourself of obtaining the best of supplies, read the ads of A-B-J — when writing to them, mention A-B-J

THE PINARD
Nailless Queen Bee Shipping Cage

Send for sample. Agents—Diamond Match Co., Chico, Cal.; Weaver Apiaries, Navasota, Texas.

A. B. PINARD, Manufacturer
810 Auzerais San Jose, Calif.



BOLENS POWER HOE $88.00 F.O.B. FACTORY

Brings power gardening within reach of millions! Also larger, more powerful **Bolens Garden Tractors**—walking and riding models—to do plowing, harrowing, cultivating, spraying, mowing and other farm work on a small scale. Write Gilson-Bolens Mfg. Co., 28 PARK Port Washington, Wis.

Peterman's Three-Banded Italian QUEENS AND PACKAGE BEES

The best at the regular price. Queens, 75c; Package Bees and Queens $2.45 - $3.15.

H. PETERMAN, LATHROP, CALIF.

Things Worth Considering . .

Since 1923, we have been shipping package bees to all parts of the U.S.A. and Canada. We do not have a single dissatisfied customer that we know of. We have acquired lots of friends.

We cannot supply your needs as early as some shippers, as we are in the northern part of this state, farther north than most package men. Being closer to you and situated on fast express lines, we are able to save you money on express charges and get them to you in better shape.

We are always ready to begin shipping April 10 to 15. Also, we have a good system of hard surfaced roads and plenty of efficient help if you wish to truck them back.

We breed three-banded Italians only.

PRICES TO JUNE 1

Two-Pound Package with Queen	$2.45
Three-Pound Package with Queen	3.15
Queens	.75

15% discount to dealers.

SHAW & HOMAN, Shannon, Mississippi

PACKAGE BEES

& Queens **for 1937**

Although Iowa had a short crop in 1936, one of our customers averaged about 500 pounds of honey from our 3-pound packages of bees and queens. We do not promise you that our bees and queens are better than any others, but we do promise to send you what you pay for at the time agreed. When your crop is harvested, we guarantee that you will find our bees and queens as cheap as any regardless of the promises and prices of others. Only a limited number of packages unbooked.

MARKETING AGREEMENT PRICES

T. W. BURLESON & SON, Waxahachie, Texas

about. It is our aim to advertise and promote the sale of our honey. Another call meeting may occur at any time for this purpose.

C. P. Bradley, Hazlehurst, was elected secretary and J. J. Wilder, Waycross, was elected chairman.

J. J. Wilder.

— o —

Allegheny County (Pa.) Beekeepers Meeting.

The Allegheny County Beekeepers' Association held its annual meeting in Pittsburgh, at the downtown Y. M. C. A. Very interesting and educational sessions were held afternoon and evening, after which four reels of "Realm of the Honeybee" and a reel of the Northern Pacific Railway Company's "Westward Ho" were shown. The following officers were elected for this year: president, Charles E. Virden, Pittsburgh; first vice president, J. S. Fleck, Pittsburgh; second vice president, A. T. Keil, Mars; secretary-treasurer, L. E. Havekotte, Pittsburgh.

L. E. Havekotte,
Secretary.

— o —

New Idaho Organization

The beekeepers of southwestern Idaho met in Caldwell February 3, and organized the Western Idaho Honey Producers' Association. Thus the beekeepers of this section of Idaho will be able to meet oftener, which we think will be of greater benefit to the honey industry. It is the intention of this association to send delegates to the state convention and to cooperate in every way possible with that organization. Officers are: president, C. F. Feeler, Nampa; vice president, Charles Williams, Meridian; secretay-treasurer, K. M. Hutteball, Boise.

K. M. Hutteball,
— o — Secretary.

Schenectady County (New York) Has a Bring 'Em Out Program.

Our field editor attended the program of the Schenectady County Association on February 25 at Schenectady, New York, with 260 lively, full-of-interest and question-asking beekeepers sitting down to a stout banquet of turkey, cranberries, ice cream and apple pie served by the Glendale Rebekah Lodge of Odd Fellows.

Why so many? The answer is simple. Consider the program: Music by Frank Fleming and orchestra; Wilfrid Mann, song leader; Irene Winne, accompanist; address, Frank E. Phillips, of Cornell University, "Observations of Agriculture in Russia"; songs and nonsense, Ben Wassel; tap dancers, Redmond Sisters; Scotch character, Jack Lindsey; Bill Welsh, accompanist; and "Lena" of radio fame.

There's the answer. As we have been saying, just one good beekeeping talk—that's plenty. Lots of fun

and things good to eat. Anybody will come to a program like that. Beekeepers' associations should wake up to this fact. Crowds come where there is enjoyment and not for the solid rehash of technical beekeeping problems which drones in a tireless monotone from a senate rostrum.

—o—

Charter Members of the National Auxiliary

Under the leadership of Florence M. Bennett, Birkenfeld. Oregon, secretary-treasurer, the following 64 charter members of the National Auxiliary up to January 31, in 19 states and 1 Canadian province, have been lined up under the banner of beekeeping. The problem of the auxiliary is to promote the use of honey in cooking and the efforts of women to help with beekeeping problems of all kinds. Here is the list:

California.

Bishop, Mrs. Roy K., R.F.D. 1, Box 21, Orange.
Brown, Mrs. Geo. J., R.F.D. 4, Box 113, Fresno.
Buchanan, Mrs. F. R., 242 N. Orange St., Glendale.
Crawford, Mrs. H. J., 500 Main St., Olive.
Emerson, Mrs. Geo. H., 3497 Eagle St., Los Angeles.
Hanson, Mrs. Fred, 4430 New Jersey St., San Diego.
Kinzie, Mrs. Daisy M., 9214 Magnolia Ave., Arlington.
Krebs, Mrs. Ethel P., R.F.D. 7, Box 2785, Sacramento.
La Barre, Mrs. R. E., Box 172, Cottonwood.
Lush, Mrs. C. E., 542 N. Shaffer St., Orange.
Marks, Mrs. R. C., P. O. Box 377, Santa Paula.
Nicolaysen, Mrs. T. L., Salida.
Ohmstede, Mrs. Irving, 922 Washington St., Redlands.
Peterman, Mrs. Jewell, R.F.D. 1, Box 226 E, Lathrop.
Peyton, Mrs. R. H., Fillmore.
Ryder, Miss D. L., R.F.D. 4, Box 445, Hanford.
Reed, Mrs. Robert H., 768 E. Highland Ave., San Bernardino.
Reeves, Mrs. W. C., 3553 Central Ave., Riverside.
Sain, Mrs. Alice, R.F.D. 4, Box 445, Hanford.
Snider, Mrs. E. J., R.F.D. 1, Box 376, Denaire.
Yates, Mrs. Herbert M., 1345 Agate St., Mentone.

Canada.

Pugh, Mrs. R. M., Ft. Qu'Appelle, Saskatchewan.

Florida.

Foster, Mrs. R. E., Gainesville.

Illinois.

Lohnes, Miss Bonnie Scott (Born Oct. 25, 1936), 337 S. 3rd St., Pekin.
Lohnes, Mrs. Walter Scott, 337 S. 3rd St., Pekin.
Osborn, Mrs. Wesley, Butler.

Indiana.

Raybould, Mrs. B. J., R.F.D. 1, Box 182, Brazil.
Starkey, Mrs. B. H., Indianapolis.
Wilkins, Mrs. J. E., R.F.D. 1, Box 227, New Augusta.

Iowa.

Paddock, Mrs. F. B., 535 Hayward Ave., Ames.
Pease, Mrs. H. A., Shenandoah.
Polhemus, Mrs. G. N., 3203 Woodland Ave., Ames.

Louisiana.

Bohne, Mrs. Geo. W., Luling.
McKnight, Mrs. C. T., Box 128, Shreveport.

Michigan.

Becker, Mrs. W. E., 10326 Wyoming Ave., Detroit.
Blackman, Mrs. Ralph E., Portland.
Woodman, Mrs. A. G., 257 Hollister Ave., Grand Rapids.

Minnesota.

Cousineau, Mrs. M. W., Moorhead.
Seastream, Mrs. Geo., Moorhead.

Mississippi.

Jensen, Mrs. N. C., Macon.

Missouri.

Allen, Mrs. Arthur, Liberty.

Montana.

Rodenberg, Mrs. Harry, Manhattan.

Nebraska.

Barnes, Mrs. R. W., Morrill.
Brand, Mrs. W. T., Mitchell.
Gates, Mrs. Leroy, 5234 Adams St., Lincoln.
Walstrom, Mrs. R. H., 5147 Emmett St., Omaha.

North Dakota.

Munro, Mrs. J. A., Fargo.

Ohio.

Buton, Mrs. Earl C., R.F.D. 1, Box 16, Tiffin.
Doenges, Mrs. A. A., R.F.D. 9, Defiance.

Oregon.

Bennett, Mrs. Florence M., Birkenfeld.
White, Mrs. Lewis M., Portland.

South Dakota.

Hoffman, Mrs. Armin, Madison.

Texas.

Clark, Mrs. A. W., Bandera.
Clements, Mrs. Elbert, Lampasas.
Engle, Mrs. Charles, Beeville.
Fletcher, Mrs. W. A., Box 263, Garland.
Hardey, Mrs. J. D., 414½ Mesquite St., Corpus Christi.
Patterson, Mrs. A. M., Devine.
Olinger, Mrs. Nell W., P. O. Box 838, San Antonio.

(Please turn to page 192)

—ABJ—

Every Hive a Scale Hive

(Continued from page 177)

end and side of the 2x4's. Measure down 20 inches for the three cornered piece, 20 inches from the outside of the 2x2 to the top or pivot edge of the three-cornered piece to bring the pivot edge with the standard hive in line with the front of the hive. This is important.

The 1x6 piece is now nailed on the bevel cut on the two bed pieces and must just clear the hive bottom. This acts as the alighting board. In the hive bottom on the back end, center way, a No. 11 flat head wood screw was screwed in, projecting ½ inch. This is to hook the scale hooks into. The weight the scale registers is half the actual weight of the hive.

I use a small book that fits in my pocket and the leaves are numbered the same as the hives, using two pages per hive. One page is for the weights and the other for the work done or to be done.

I shortly discovered I was getting more information from my weight sheet than I was from the other. It did not take as long to get the weights as it did the other information. I could weigh a yard at about 50 seconds to a hive and have it all marked down. I could weigh any time of the day, rain or shine or after sundown. It meant a lot to me.

I wanted to get an idea of the honeyflow and keep tab on the honey being made. In a short time I was detecting something wrong with the weight of this hive or that and I soon began to learn that you could detect swarming preparations, queenlessness, crowded brood nests and other things. In the end I was finding trouble that would have taken me from ten to twenty minutes to discover otherwise, and this way I did it in less than a minute.

With an investment of less than six dollars (not figuring the hive stands, which were a wonderful improvement and well worth what little they cost), I did not figure I would be able to get accurate weights. When ready to extract in the fall however, I weighed the hives before the supers were taken off and they were not weighed again until they were put in winter quarters. After the honey was extracted and weighed, I had a 3 per cent overrun on the apiary, so I figured that was close enough. I doubt whether you would do much better by weighing all the hives on a platform scale.

I weighed all of my equipment and have the weight sheets in the apiary book, so I know by looking at hive No. 6 or No. 10 what that hive on that stand weighs empty without bees or honey. Then the rest is easy.

It pays to take time in making the hive stands and get the three cornered piece placed right. That is the pivot point and getting this too far ahead will add to your weight and too far back will cut it short. When placing the hive stands in the apiary, have the bed piece level. You will have about a ¾ inch slope on the hive bottom due to cutting the 2x2 cornerwise. This is not enough to hurt the weight, as you only raise the back end of the hive enough to get the reading on the scale.

—ABJ—

Observations of a Beginner

(Continued from page 184)

ed with bees find that too much smoke angers them; a little smoke, rightly placed, does not unduly offend them, and keeps them (usually) too occupied to enable them to think of stinging.

Too Many Bees in a Hive?

My strongest colony this spring (in a single hive body) was the skep that was weakest in numbers last fall.

It was given a new queen in late August and when late October came was too short of honey to winter. I gave it some combs of honey, and fed it as well.

I suspect there is some optimum number of bees that a colony should have in going into the winter. (I refer to a well-packed colony.) Of course, if bees are unprotected it stands to reason that a large force is needed to keep the queen warm, and to provide the necessary number of bees that the rigors of winter will demand as a sacrifice.

If this optimum number could be determined the quantity of stores for winter consumption would be lessened, also there would be more food for spring brood rearing.

Money Saving Prices

Wax Worked Into Foundation

It will pay you to save your OLD COMBS and CAPPINGS and send them to us for rendering into beeswax. Or, if you have rendered wax, send it on and we will work it into Foundation for you at the following attractive prices.

Working prices per pound in Quantities of

Give size when ordering	sheets to lb.	10 lbs. "A"	25 lbs. "A"	50 lbs. "A"	100 lbs. "B"	1000 lbs. "C"
"Hercules" Plain	7	$ .24	$ .20	$ .18	$ .14	$ .12
"Hercules" Wired	7	.29	.25	.23	.19	.17
Medium Brood Plain	7	.23	.19	.16	.12	.10
Medium Brood Wired	7	.28	.24	.22	.18	.17
Light Brood 4½"x16½"	16	.27	.25	.23	.18	.16
Thin Surplus	28	.28	.26	.24	.19	.17

State size foundation you want your beeswax worked.
(Cannot work less than 10-lbs. of wax into Foundation.)

The above prices are our charges for manufacturing your beeswax into foundation.

Residue, if any, will be deducted from your shipment of wax.

If ordering Thin Surplus Foundation—**Send Light Wax.**

Pack your wax in a double sack and write your name on the inside and outside and notify us at the time of shipping.

— SIZES —

KIND OF FRAME	One piece bottom bar standard	Split bottom bar frame size
Hoffman size	8x16¾	8-9/16x16¾
Jumbo size	10x16¾	
5⅜ Shallow Ext.	4½x16½	5x16¾
4¼x4¼ Sections	3⅞x16	
4x5 Sections	3-11/16x14¼	
4¼x4¼x1⅞ Sec. (split)	4⅛x17¼	

The first two sizes can be had in "HERCULES," other sizes not necessary.

NOTE THE NEW LOW PRICES : Our Rendering Department Is Always Busy

Send us your Old Combs and Cappings to render into wax. Our Steam Wax Presses do perfect work, extracting the very last drop of wax. We charge only 2c a pound for wax rendered when your Comb weighs more than one hundred pounds, and 3c a pound for wax rendered when Comb weighs less than one hundred pounds, and we pay the highest Cash Price possible for your wax.

The FRED W. MUTH COMPANY

PEARL and WALNUT STREETS **CINCINNATI, OHIO**

WANTED

Your order for the finest Italian queens we have ever produced. We now specialize in queens and offer you queens that are large and well developed, uniform in color, very prolific and from gentle stock. You must try them.

PACKAGE BEES

We can accept a few more orders for package bees but you must hurry and send your order in. We again offer you those large size packages, each one headed with one of our fine queens. There will be no drones in the packages, nor bees from laying worker colonies, colonies with drone laying queens or queenless colonies. And all the bees in a package are young bees.

GUARANTEE

Safe arrival and prompt shipment guaranteed, plus 100% satisfaction on each and every shipment. Prompt adjustments made should any loss occur in transit.

PRICES

Two-Pound Packages with Queens, any quantity	$2.45 each
Three-Pound Packages with Queens, any quantity	3.15 each
Untested Italian Queens, any quantity	.75 each

A 15% discount from above prices to authorized dealers.

TRADE !

Each season we receive many offers of trading supplies and comb foundation for packages and queens. If you are short on cash and have a surplus of any bee supplies, write us and tell us what you want for your supplies.

We Support the American Honey Institute. Do You?

VALLEY BEE & HONEY CO., E. E. Salge, Prop., 902 Kansas Ave., WESLACO, TEXAS.

Wisconsin.

Cranston, Mercedes A., American Honey Institute, Madison.
Jensen, Mrs. M. F., American Honey Institute, Madison.
Michaelsen, Mrs. Wm., Arkansas.

Wyoming.

Bryant, Mrs. Robert A., Worland.
Rauchfuss, Mrs. Herman, Worland.

Will the lady who finds her name missing from this list, please notify me at once. One of the names given to me became blotted and I cannot quite decipher it. I am very sorry as we want a complete list of our members.

Anyone wanting to become a charter member of this organization please send me your name and address together with 25c for dues. Charter membership will be open until next November.

Florence M. Bennett,
Secretary-Treasurer,
Birkenfeld, Oregon.

— o —

Oregon Inspection Service Resumes.

Oregon has recently provided funds for state inspection work. Anyone interested in applying for the position should correspond with Mr. Frank McKennon of the State Department of Agriculture, Salem, Oregon.

— o —

Death of W. P. Southworth.

W. P. Southworth, long a prominent leader in Iowa beekeeping circles, died in a Sioux City hospital on Sunday, January 10. Long a resident of Salix, Iowa, Mr. Southworth was engaged in the hardware business for many years. In 1905 with a number of others he organized the Western Honey Producers and was its manager until 1927. The business was moved to Sioux City in 1912.

He was among the group of beemen who were instrumental in securing the passing of the first law providing for bee inspection in Iowa and also in the formation of the Iowa Beekeepers' Association in 1912. Born in Fair Haven, Mass., in 1868, he came with his parents to Salix, Iowa, in 1871 and spent the remainder of his life in northwestern Iowa.

At one time the Western Honey Producers were actively engaged in honey production on a large scale while packing and selling honey to the trade over a large area.

— o —

Death of John Hendricks, Powell, Wyoming.

John Hendricks, of Honeyhill Farm, Powell, Wyoming, died on December 14, after an illness of about a month of septicemia. He was 62 years old. Burial was at his old home at West Franklin, Indiana.

Wounded in action at the battle of San Juan Hill in Cuba in 1898, Mr. Hendricks was for a number of years an invalid. In 1910 he went west for his health, settling on a homestead in the then new Shoshone Project. Although he never entirely

recovered his helath, he built up an extensive apiary of 700 colonies. His 1936 crop totalled 52 tons of extracted honey.

Mr. Hendricks attended Valparaiso and Northwestern Universities. In 1913 he was married to Miss Cecelia B. Hennel, a member of the faculty of the English Department of Indiana University. They established their home on the homestead, naming the place Honeyhill. Both took an active part in civic and political affairs of the community and state. Mr. Hendricks helped organize and held office for many years in the Project Telepone Company, the Shoshone Fire Insurance Company, the Bighorn Basin and Wyoming Beekeepers' Associations, the Shoshone Waterusers Association, and various other cooperative organizations. He served as a member of the State Board of Agriculture under Governors William and Nellie Tayloe Ross.

Six years ago during the depression, Mrs. Hendricks resumed her teaching in Indiana University. Since then the family has spent the winter in Bloomington, Indiana, and the summer at Honeyhill. In Bloomington Mr. Hendricks was a frequent speaker for Farm Bureau meetings, and was a member of the Monroe County Horticultural Society, a farm organization more than a century old.

In addition to his wife, he is survived by two daughters and a son: Cecelia, a junior in Indiana University, and Jules Ord and Anne, students in the Bloomington high school.

The work at Honeyhill will go on under the direction of Mr. and Mrs. Glen C. Templeman. For the past year and a half Mr. Templeman worked with Mr. Hendricks. Mr. Templeman is a graduate of 1932 of Iowa State College at Ames, with a B. S. degree in chemical engineering. Before going to Wyoming he had experience with such well known Iowa beekeepers as D. L. Lhommedieu and F. W. Hall. Mrs. Hendricks plans to continue her teaching at Indiana University, and to spend the summers at Honeyhill.

His philosophy of life is well expressed in a statement he made only a few days before his death. He said:

"Whatever success I have had in beekeeping is not from anything I have done myself. It came because I kept my mind open to the direction of the Great Creative Mind. To be successful in beekeeping, one must live the principles of Christianity and learn to work in unison with the Great Creative Mind."

SPECIAL NOTICE

—SEE—

Holder Apiaries' Large Ad

IN THIS ISSUE OF JOURNAL

ITALIAN QUEENS
PACKAGES
ORCHARD PACKAGES
NUCLEI

QUEENS, 75c each.—TWO-POUND PACKAGE OF BEES, WITH QUEEN, $2.45.—THREE-POUND PACKAGE OF BEES, WITH QUEEN, $3.15.—FOR NUCLEI ADD 70c PER COMB TO THE PACKAGE PRICE.

Will take honey or wax as payment for bees. Orders filled promptly.

HOMER W. RICHARD, 1411 Champnolle, El Dorado, Ark.

JUST A REMINDER

That now is the time to check over your requirements and place your order for BEE SUPPLIES.

Try RUSCH for
QUALITY - VALUE - SERVICE

Send for free catalog.

A. H. RUSCH & SON CO. -:- REEDSVILLE, WISCONSIN

When You Get a Good Thing, Remember Where You Got It.

It is a little more trouble to build our shipping cages than it is some styles. It pays us and you too. It pays you because the bees arrive in better shape. Not just alive, but full of pep. It pays us by assuring repeat orders. The cost to you is no more.

Our special introducing cage costs us more to build and also more to mail, than regular mailing cages—but the cost to you is the same. If requested we send your queens in them. It pays you, because you have no loss in introducing. IT PAYS US IN CUSTOMER SATISFACTION.

Trade Agreement Prices.

SILVER RUN APIARIES, Route 1, PHENIX CITY, ALA.

One Pound 7 Sheets Medium Brood | EBYS **BUSY BEE BRAND** NON-SAG FOUNDATION | **Correct Base Angle High Cell Wall**

POSTPAID Anywhere in U. S. **70c** : Foreign Countries **80c** : As a Special Introductory Offer

MAY WE SEND YOU YOUR POUND NOW?

We have just installed the best Aluminum filter, kettles, etc., for refining beeswax, known. Our mills and machinery have been greatly improved, capacity of mills 600 pounds per hour, sizes and weights are accurate and correct. Don't confuse our foundation with much of the foundation made today. You cannot buy better foundation anywhere regardless of price. We buy beeswax for cash or work your wax into foundation. We are prepared to supply your hives, extractors, bees, etc. We solicit your inquiry. Visit our new all concrete and steel apiary and factory building of more than 16000 ft. of floors.

FOR SALE—400 five-frame nuclei, delivered to your door by truck if you wish, April 20th to May 1st. From our Georgia apiaries.

The Highland Apiaries & Factory :: W. Elkton, O.

When Writing Advertisers, Please Tell Them You Read It in A-B-J

"EARLY ORDER" DISCOUNT Prices Continued
UNTIL MAY 1st

10-fr. Metal Cover Hives, 1 story, as low as $1.94 each.
10-fr. Wood Cover Hives, 1 story, as low as $1.60 each.
10-fr. Bodies with frames _____ as low as $ .88 each.
Working Wax into foundation ___ as low as $ .10 lb.

Colonies are nine weeks ahead in brood rearing. (First swarming in Cincinnati, March 6th.)

Prepare for a big crop and good demand for Honey. Take advantage of our low prices on highest quality supplies. Write for price list.

We render wax from your old comb and cappings—ship to us.

BEESWAX AND HONEY WANTED — CASH OR TRADE

The FRED W. MUTH CO.

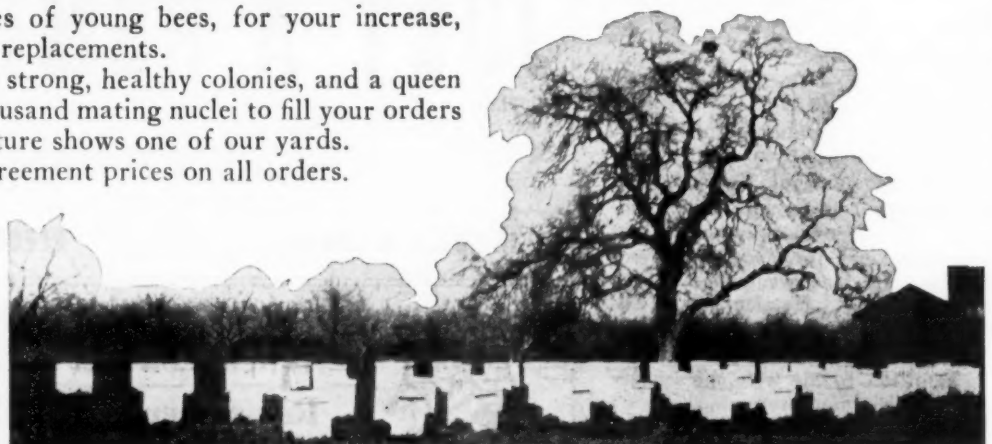
PEARL & WALNUT STS. **CINCINNATI, OHIO**

BURLESON'S BLUE RIBBON PACKAGE BEES

Prime packages of young bees, for your increase, new apiaries, or replacements.

We have 2500 strong, healthy colonies, and a queen apiary of two thousand mating nuclei to fill your orders on time. This picture shows one of our yards.

Marketing Agreement prices on all orders.



Write for your free descriptive folder now.

THOMAS C. BURLESON
Colusa, Calif.

WATER---PLENTY WATER!

But we are away from the high water, your orders are safe if sent to MERRILL BEE CO. We do not overbook that is why we give prompt deliveries.

Merrill's Quality Bees and Queens

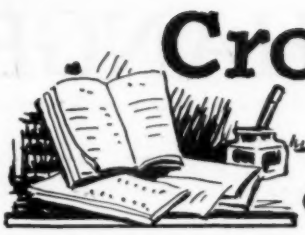
Have stood the test for 27 years. Try them they will please you too.

2-lb. package Italian Bees with Queen, each	$2.45
3-lb. package Italian Bees with Queen, each	3.15
Untested Queens, any number, each . . .	.75
Tested Queens, any number, each	1.50

Orders booked without deposit. 15% discount to dealers.

MERRILL BEE COMPANY BUCATUNNA, MISS.

MISSISSIPPI'S OLDEST SHIPPERS



Crop and Market Report

COMPILED BY M.G. DADANT

For our April Crop and Market page, we asked reporters to answer the following questions:

1. How much honey left on hand?
2. Is it moving out, or are prices being advanced or reduced?
3. Condition of bees.
4. Honey plant prospects.

Honey on Hand

There is not much doubt but what all of the honey on hand will move satisfactorily before the new crop is available. In isolated localities we find beekeepers still with honey on hand now disposing of it at a price about equal to what they could have gotten last August or September. However, in the main, the tendency has been towards a slight advance in prices and somewhat of a quickening in demand with the approach of the spring season.

In practically all instances, there is less than 5 per cent of the last year's crop in the hands of producers, and distributors are also fairly well cleaned up on honey. Some exceptions are New York, Pennsylvania which report near 15 per cent left. However, we believe that honey is cleaning up about as well as it ever has in the past.

How Is Honey Moving?

Honey is moving very readily through the regular distributing channels, probably better now than it did a month ago.

We learn from Manitoba of a reduction in freight rates both to the west and east coast with the result that carloads of honey have been shipped for export and a clean-up of the market is anticipated whereas earlier there was thought to be a possibility of a holdover. Some Manitoba honey has even found its way as far south as Chicago by truck.

Prices.

In most instances, prices have held about at the same range as last fall although there has been a tendency to advance retail prices somewhat with the advancing cost in packing materials, etc.

Packers and buyers of honey in large quantities have been loath to pay a larger price than they contracted for last fall. There does seem a little tendency on the part of a few beekeepers in isolated locations to want to dispose of their honey before the spring sets in and this has perhaps tended to drag the market somewhat. This has been, however, far more than made up by others who are holding for the prices they thought were satisfactory and which many of them are now getting. In California particularly the situation is much relieved by the settling of the strike and honey is now moving out satisfactorily so that little is left.

Condition of Bees.

When we compare the condition of bees at this time with the same conditions last year, we find much fewer losses, particularly throughout the white clover belt. Last year losses, by this time, were from 25 to 35 per cent in many apiaries whereas now the largest losses we hear reported are from 10 to 15 per cent. Bees have had quite a number of flights during the winter, and for cellar wintered bees, the cold has been constant so the bees have not become uneasy.

The only difficulty will be that there may be many colonies with a shortage of stores owing to the moderate winter, particularly where wintered out of doors. Some reports come from intermountain sections and the plains states of Nebraska and Kansas that bees unprotected have suffered heavily this year. This, however, is not exceptional for unprotected bees in one section or another.

Throughout the South, bees have been in booming condition owing to the earliness of the spring period. There has been somewhat of a retardation within the past two or three weeks because of cool inclement weather. The same thing existed as far west as Texas.

In California, particularly, the bees are in a very backward condition on account of the cold weather. Some reports are that the bees are at least a month late. This undoubtedly will mean a shortage in honey gathering from the early flows such as the orange unless the orange is delayed in its blooming period which is perhaps unlikely.

Honey Plants.

When it comes to honey plants, we see an entire reversal of conditions of a year ago. A year ago at this time everybody was optimistic over honey plant conditions. Pessimism existed in the intermountain states and perhaps in California whereas optimism was particularly felt throughout the white clover belt.

This year the whole white clover belt looks askance at the possibilities for honey. The little white Dutch clover itself is largely gone on account of the drought of last year although eastern sections of the belt from Ohio into Pennsylvania and New York seem fairly satisfactory.

Many sweet clover sections were affected by the drought and doubt exists in the minds of beekeepers as to whether there will be enough second year plants to yield them a harvest this year or whether it will be necessary to go in search of new fields to move to. This condition exists particularly in the plains states extending as far up as the Dakotas and into eastern Montana, thence down into Oklahoma and northern Texas.

Sections in which possibilities seem best are extreme northwestern Dakota, northern Minnesota, northern Wisconsin and north central Michigan. The New England states also seem satisfactory together with northern New York and down into New Jersey. Of course the Atlantic coast states are in extremely satisfactory condition and are only hoping that there will be no killing frost to hurt the prospects as they now appear.

The Canadian provinces from one end to the other seem normal as far as honey plant conditions and condition of bees are concerned.

The intermountain states last year were fearful of a shortage of honey plants on account of shortage of water. This year the conditions are entirely reverse, particularly in Nevada, Utah, western Colorado and up into Idaho where conditions seem to be better than normal.

In California, if the bees are there to gather it and present conditions prevail for honey plants, it does seem that they will have the best crop they have had in several years, barring, of course, the possibility of a shortage from the early flows such as the orange.

All in all, we do not believe that conditions are as good with honey plants as they were a year ago at this time and they are far better for bees. It appears there will be many more bees to gather the crop this year than in 1936 with the possibility of the chances for good crops somewhat segregated in isolated and favored locations.

Of course, no one can tell about the weather and favorable weather conditions throughout the honey producing period may largely offset the average conditions of plants as we see them now.

Renew Your Subscription
Write for Our Special Club Offers
AMERICAN BEE JOURNAL

Iverson Honey Company (Not Inc.)
Successor to
Edwin H. Guertin, 201 N. Wells St., Chicago
Extracted Honey bought and sold
Reference: First National Bank of Chicago.

Are You Ready for This Season?
Have you gone over your equipment? Have you plenty supplies? Advertisers in the American Bee Journal will welcome any inquiry sent to them.

The BEEKEEPER'S EXCHANGE

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

BEES AND QUEENS

CAUCASIAN PACKAGE BEES. Booking orders now for 1937 delivery. 2-pound package with queen $2.45; 3-pound package with queen $3.15. 15% discount to dealers.
P. B. Skinner Bee Co., Greenville, Ala.

PACKAGE BEES WITH QUEEN INTRODUCED eliminhtes loss of queens. Our folder tells about them. A. O. Smith, Mount Vernon, Indiana.

PACKAGE BEES, with or without queens. Sternenberg Bros. Lockhart, Texas.

CAUCASIAN BEES AND QUEENS. Booking orders now for May and later delivery. Our prices same as last year. Write for descriptive booklet and prices. Order early and get bees. Bolling Bee Co., Bolling, Alabama.

PACKAGE BEES AND QUEENS. Dependable stock. Quick delivery. Low express rates from Nashville. Nineteen thirty-six prices. N. S. Gladish, No. 5 Hobbs Rd., Nashville, Tenn.

ITALIAN QUEENS, PACKAGE BEES.
Alonzo McKay, Route 1, Vicksburg, Miss.

"SHE-SUITS-ME" QUEENS. None better. Only choice selected queens sent out. Linebred, three-banded stock. Prices after May 20, one queen $1; six for $5. Special prices on large quantities. Send for circular.
Allen Latham, Norwichtown, Connecticut

PACKAGES BEES, headed by a Caucasian queen $2.45, $3.15.
Miller's Caucasians, Three Rivers, Texas.

THREE-BANDED ITALIAN BEES AND Queens of fine quality. A trial order will convince you. Satisfaction guaranteed. Marketing Agreement prices. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, N. C.

LIGHT 3-BANDED ITALIAN QUEENS. We are one of the largest growers of queens in the United States, producing 100 queens or more daily. We ship only young, laying queens and guarantee them to be purely mated and satisfactory to you. You are the judge. Price, 75c each. To dealers, 63¾c each. We need dealers in many localities.
The Walter T. Kelley Co., Paducah, Ky.

SPECIAL OFFER on 300 one-story colonies of bees in modern ten-frame standard equipment at $3.50 each. Truck them yourself. We can make early shipments on two and three-pound packages of bees with queens. Ship at any time you say—March, April, May and June. Trade Agreement prices. Dealers' discount 15%. Dealers wanted in all localities. Health certificate with all bees.
Little River Apiaries, Box, 83, Gause, Texas.

TRY TILLERY'S CAUCASIANS, package bees and queens. 2-lb. package $2.45. Untested queens 75c each. Safe arrival, satisfaction.
Tillery Brothers, Greenville, Ala., Route 4.

GOLDEN ITALIAN QUEENS that produce workers very gentle to handle, good honey gatherers. Health certificate. Satisfaction guaranteed. Select tested $2.00; tested $1.50. These ready now. Untested about May, 75c.
D. T. Gaster, Route 2, Randleman, N. C.

BEEKEEPERS THAT WANT TO BUY black package bees with pure Italian queens, get in touch with us at once.
Rapides Apiaries, Winnfield, Louisiana.

GOLDEN ITALIAN QUEENS. Tested $1.50; select tested $2.00—ready now. Untested 75c; select untested $1.00—ready about April 20th. Satisfaction guaranteed.
Sam Hinshaw & Son, Randleman, N. C.

QUALITY QUEENS. 3-banded Italians, prolific, gentle, great honey gatherers. Safe arrival. No disease known in our apiaries. Carolina Apiaries, Dalice E. Crawford, Mgr., Haw River, North Carolina.

THREE-BANDED ITALIAN QUEENS and Bees. Eleven years' experience of queen rearing for largest shipper in South. Guaranteed to be the best produced. Now ready to ship early orders. Marketing Agreement Prices. D. P. Green, DeLand, Florida.

EXTRA YELLOW Italian queens that produce bees a little more yellow than three-banded; more gentle and just as good workers. Untested 75c each; tested $1.50 each. Health certificate and satisfaction. Hazel V. Bonkemeyer, Randleman, N. C., Route 2.

JOYFUL QUEENS—Leather colored Italians. Good honey gatherers and gentle. 75c each. Joy Apiaries, Walter Frierdich, Belleville, Illinois.

HONEY FOR SALE

FOR SALE—Northern white extracted and comb honey.
M. W. Cousineau, Moorhead, Minn.

CHOICE Michigan Clover Honey. New 60's.
David Running, Filion, Michigan.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—Well ripened clover honey, car lot or local shipments. Will be pleased to submit sample. THE COLORADO HONEY PRODUCERS' ASSN., 1324 Market St., Denver, Colorado.

FOR SALE—New Comb and Extracted Honey. H. G. Quirin, Bellevue, Ohio.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey & Wax Company, Inc., 265-267 Greenwich Street, New York.

WHITE CLOVER HONEY in 60-lb. cans at 8c lb. Write for prices on large quantities. Sample 15c.
F. W. Summerfield, Grand Rapids, Ohio.

FOR SALE—Fancy, well ripened, white sweet clover honey in 60-lb. cans. Extra good quality. Dadant & Sons, Hamilton, Ill.

DELICIOUS PALMETTO HONEY in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

100 CASES WHITE CLOVER COMB, beeway sections. Frank A. Little, Cortland, Ill.

FOR SALE—Buckwheat honey, 60-lb. cans @ $4.00. G. Hoffman, Scotia, New York.

LIGHT AMBER in new 60's, 7c.
E. S. Miller, Valparaiso, Indiana.

FOR SALE—A car of honey.
Geo. Seastream, Moorhead, Minn.

FINEST QUALITY WHITE extracted in new or used sixties. Case or car. Prices reasonable and satisfaction guaranteed. Sample 15 cents. Harry C. Kirk, Armstrong, Iowa.

HONEY AND BEESWAX WANTED

WAX worked into comb foundation, accepted in trade for supplies or bought. Write for our proposition and shipping tags.
Walter T. Kelley Co., Paducah, Kentucky.

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

HONEY PACKERS—Write us for prices on carload lots of California and Western Honeys. We stock all varieties. HAMILTON & COMPANY, 108 West Sixth St., Los Angeles, California.

WANTED—Extracted Honey. Send sample and price delivered to T. W. Burleson & Son, Waxahachie, Texas.

WANTED—White and Amber Extracted Honey, any quantity; also beeswax. Write THE FRED W. MUTH CO., Pearl and Walnut Sts., Cincinnati, Ohio.

WANTED—All dark grades of honey. C. Jankowski, Russell, Ill.

ALL GRADES, including capping melter honey, Prairie View Apiaries, 2005 Fullerton, Detroit, Michigan.

WANTED—Extracted honey in carlots or smaller quantities. Send sample and prices. MAXWELL BROTHERS, INC., LYNCHBURG, VIRGINIA.

FOR SALE

FOR SALE—Five hundred stand apiary in central Iowa, including honey house if desired; also residence and 1½ ton truck.
Box F.L., American Bee Journal.

SUPERS for 4x5 sections, fine condition, Root, guaranteed no disease.
E. S. Miller, Valparaiso, Indiana.

FOR SALE—Complete numbers: American Bee Journal, 1922 to 1936; Gleanings, 1922 to 1932. Thos. Dildine, Kellogg, Minn.

FOR SALE—Two-frame reversible extractor, good condition. Fred Drury, Unionville, Mo.

200 COLONIES, no disease, full equipment, buildings. Best honey district of British Columbia. Excellent hunting, fishing. Ideal proposition on which to retire with modest income. Box 11, Ashcroft, Canada.

WANTED

WILL PAY CASH for about 300 colonies of bees and equipment in Wyoming, Montana or Idaho. Write full particulars.
R.L.P., 311 Park St., Ft. Collins, Colorado.

WANTED—Two experienced men for package season. The Stover Apiaries, Mayhew, Mississippi.

WANTED TO BUY—150 ten-frame supers. George Anderson, 2838 West Kilbourn, Milwaukee, Wisconsin.

WANTED—EXPERIENCED beekeeper wants bees on shares or to purchase. Excellent territory. Elmwood, Hallock, Minnesota.

TWO EXPERIENCED HELPERS. Working 2,000 colonies. State qualifications and wages expected, no board.
Old Taylor Honey Co., Harlan, Iowa.

WANTED—Man with some experience for coming season. Write fully first letter.
Edw. Klein, Gurnee, Illinois.

WANTED—Strong, active, clean young man to assist in our apiaries. State age, weight, height, experience, and wages expected.
Elton L. Lane, Trumansburg, New York.

WANTED—Reliable young man as helper, some experience. Give qualifications, references and wages wanted.
C. M. Hurst, Blackfoot, Idaho.

FOR EXCHANGE

FOR IMMEDIATE TRADE—Packages for good sweet clover white honey.
Head Apiaries, Winnfield, Louisiana.

WILL TAKE 10-LB. PAILS HONEY in trade for chicks. White, brown LEGHORNS, Reds, Rocks, Wyandottes. Sexed chicks also.
Ames Hatchery, Deerfield, Wisconsin.

ADVERTISING PAGES REMOVED

BRAZOS VALLEY APIARIES
CAMERON, TEXAS

PACKAGE BEES

BRAZOS VALLEY APIARIES
CAMERON, TEXAS

Your choice of queens.

Italian, Caucasian, Carniolan

Queens reared in yards several miles apart insuring no cross breeding. Each race from the very best pure stock obtainable.

Truck load orders should be placed early so queens can be ready strictly at time wanted. Extensive experience in loading trucks quickly.

A quarter of a century of efficient service in the same locality is our record.

My motto through the years: I will expect to do business with you again.

Trade Agreement Prices. 15% discount to dealers.

H. E. GRAHAM ❖ ❖ **CAMERON, TEXAS**

Louisiana Comb Shippers and Honey Producers Association

An Independent Beekeeper's Organization — Neither Controlled or Affiliated With Any So-Called National or State Organization.

Organized by Package Bee Shippers for a Better Understanding With Package Buyers.

Package bees on natural combs of honey and brood, queen loose and laying among them, ship better, handle better, transfer better, get off to a better start and put up more honey than any other way in which bees can be handled.

It eliminates all the trouble in installing bees into hives, as combs have to be only lifted over with bees, queen and all.

The flight hole in the package can be loosened, bees let fly and then settle down before transferring. It is an ideal orchard package; the extra honey it carries takes care of variation in bloom period.

It removes all danger in queen introduction, queens are introduced without cost to you before shipping and live arrival guaranteed. We cage queens on special request only.

This section of Louisiana is ideal for comb building, with its heavy drawn out honeyflows and its mild climate. Every member of this Association is a honey producer.

We breed the best stock of three-banded Italian bees and every member of this Association is a queen breeder.

Standard Combs, 2-pounds of bees, queen already introduced on one Standard comb of brood and honey, $2.45 each.

Modified Dadant Combs, 2 pounds of bees, queen already introduced on one Modified Dadant Comb of brood and honey, $2.75 each.

We also specialize on combless packages and we sell them at Marketing Agreement Prices.

All Modified Dadant combs built on Dadant's crimp-wired foundation.

Extra pounds of bees 70c, extra combs 70c which can be bought to build up size packages desired by buyers. Approved dealers write for discounts.

One-fifth books the order.

All shipments with Inspection Certificates attached; satisfaction guaranteed.

Thousands of colonies to draw from.

No representative has authority to speak for this Association at any place or meeting, on any subject, without first showing credentials signed by the Executive Committee of this organization.

Packages obtainable from the following alphabetically listed shippers, at addresses below:

R. L. BERNELL, Route 4, New Orleans, Louisiana.

E. J. BORDELON, 2651 Havana St., New Orleans, La.

J. P. CORONA, Kenner, Louisiana.

JES DALTON, Kenner, Louisiana.

EPHARDT'S HONEY FARMS, Luling, Louisiana.

J. L. GASPARD, Hessmer, Louisiana.

NORMA E. ROY, Hessmer, Louisiana.

B. L. WAHDEN, 1201 French St., New Orleans, Louisiana.

3-BANDED LEATHER-COLORED ITALIANS
ALSO BRIGHT ITALIANS. PACKAGE BEES & QUEENS

We still have plenty of open dates between April 1st and 15th and from May 10th and later. Cash in on high sugar prices and increased honey demands by increasing production. We don't believe you can go wrong with our bees. No disease. Drones excluded. Full weight at destination. Light cages. On time delivery.

2-lb. pkg. bees with selected laying queen	**$2.45**
3-lb. pkg. bees with selected laying queen	**$3.15**
Queens, each	**.75**

15% Discount to qualified dealers.

GARON BEE COMPANY ❖ **DONALDSONVILLE, LA.**

The Postscript

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

A reader from Arkansas asks about the pink-vine which has been mentioned in this column on several occasions. It is known by different names, according to the locality in which it is found, as coral vine, corallita, confederate-vine, rosa de montana and by its scientific name of **Antigonon leptopus.** This vine comes to us from Mexico and is one of the most attractive plants for bees with which I am acquainted. It grows vigorously often as much as 25 to 50 feet in a single season and covers porches, fences or screens very effectively. The long blooming period from late winter until early fall makes it desirable both as an ornamental and as a bee plant.

—ABJ—

While the plant is tender and only suited to such warm climates as Florida, south Texas and southern California, it is highly desirable where it can be grown. While there has been little success with planting any crop for honey alone, it would seem that with favorable conditions this plant might prove an exception in a suitable environment. It does not require rich soil, in fact blooms better on rather poor soils and the blooming season is so long that it provides months of bee pasture.

—ABJ—

Some interest has recently been manifested in the Japanese pagoda tree, **(Sophora japonica).** In times past it has been recommended as especially valuable for bee pasture. We would like to hear from any reader who is familiar with it. We want to know in what localities it succeeds and whether it appears to be of real value as a source of nectar. It is said in the books to be hardy north —but how far north and how far west?

—ABJ—

A relative of this tree, the coral bean or mescal bean of Texas and Mexico is important to the bees in some localities. I have seen mountain sides in Mexico covered with it and the purple flowers were a beautiful sight in early spring. This species probably would not succeed north of Texas.

—ABJ—

In connection with my admission on this page of ignorance as to the medicinal values of honey, if any, I am reminded that it is safe enough to claim medicinal qualities since it is harmless and if not helpful will do no injury. Certainly most patients would find it agreeable to take.

I find record of the fact that during the great epidemic of influenza in 1890 when it was called "la grippe" some doctors advised honey and lemon juice as a last resort in severe cases. It was directed that the juice of a lemon be added to a cupful of hot honey and that it be taken as hot as the patient could comfortably stand. Two spoonfuls was the dose to be taken whenever necessary.

—ABJ—

Certainly no well informed editor could overlook the famous bee sting cure for rheumatism. For nearly half a century and no telling how much longer, the beekeepers have been telling the world to cure their rheumatic pains with bee stings. Too often the cure is regarded as worse than the disease.

Now comes Doctor Beck with a book, "Bee Venom Therapy" which indicates that the beekeeper's claims are all true and that many such cures have actually occurred. Perhaps the physician who prescribed honey and lemon juice for influenza knew what he was doing also.

—ABJ—

Dr. G. P. Hachenberg, of Texas, stated that honey being both a food and a medicine belongs to that class of medicinal remedies that cure indirectly by putting vital forces in such condition as to enable them to overcome diseased action. To quote "Take honey for the destruction of bacteria, because of its antiseptic, tonic and laxative effects. Its daily use would disarm every dire and malignant disease of its destructive force." He contended that with the free use of honey, diseases will run their course in much milder form.

A. K. Whidden, of Arlington, California, doubts the conclusion of the scientist who says that the poison of the bee sting is the same as that of a rattlesnake. He thinks there is a difference. Whidden scratched his thumb on a fang when skinning a rattler and found the sensation to be quite different from that of a sting, more like a red hot iron. At another time he received what he thought at the time was a very severe sting. A later examination disclosed two incisions as would be the case with the fangs of a snake. The incisions were slow in healing and the flesh remained numb locally for months.

—ABJ—

Whidden also tells of a beekeeper who was struck by a snake which he did not see. This man sickened and died. In this case whatever immunity he may have had to bee sting poison failed to save his life when he was bitten by a snake.

The same letter describes another beekeeper who was bitten three times in the year 1935 without serious effects. However, he slashed the wounds with a razor blade and sucked out the poison and did not leave much chance to judge whether any possible immunity might be in effect.

These cases are very interesting but nothing as yet has been brought forward to enable us to tell definitely whether immunity to the poison of bee stings is helpful to one who is struck by a rattlesnake.

—ABJ—

In the March postscript mention was made of the popularity of **Nothoscordum** under name of honey bell. There is already another plant in the horticultural trade commonly known as honey bell and that is **Mahernia verticillata.** It is a sprawling shrubby little plant about six inches or less in height from South Africa. The nodding yellow flowers are bell shaped. It is a tender thing and will grow only in the greenhouse except in such warm climates as Southern California.

—ABJ—

A letter from my son Kent during a February cold snap commented on the pleasure he was getting from chopping wood. He said: "A man in tolerable health should have something to keep him out-of-doors an hour a day even in the worst weather. Otherwise he will miss much of life. I suffer from cold sometimes in town going in and out of stores, up and down the drafty main street, but in the woods it is fun. I believe the further a man tries to remove himself from nature the more he suffers from nature."

He commented further on the wasted sympathy often expressed for primitive people living in a state of nature.

—ABJ—

Our so-called high standard of living is not without its disadvantages. The most contented people are usually those who live very simply. On the other hand some of the most discontented people that I have met have been those with every luxury and convenience that money could buy. A simple life seems to favor both physical well-being and a contented state of mind.

—ABJ—

Henry Ford has said: "In the land is the basis of our physical life. The farther we get away from the land the greater our insecurity." In similar vein Henry Thoreau of an earlier generation said: "In wildness is the preservation of the world. From the forest and wilderness come the tonics and barks which brace mankind."

—ABJ—

Others may preach simplicity and a life in the open but the beekeeper practices it. He really lives that kind of life and in most cases enjoys it. It seems a bit surprising that so many people from choice spend their lives within doors. The human animal seems inclined to avoid physical exertion as far as possible.

FRANK C. PELLETT.